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Drop Is Shown On Advertising Of Conditioners

**G-E and Westinghouse
Increase Expenditures,
Others Behind '38**

DETROIT—Manufacturers of air-conditioning equipment spent approximately one-third less in advertising their products in national magazines during the first six months of 1939 than they did in the first half of 1938, reports compiled in a recent survey reveal.

The survey for this year covered expenditures by 16 manufacturers, as compared with reports on 18 manufacturers last year. Amount spent by the companies included in this year's report totaled \$169,852, as compared with \$316,103 for the firms covered in the 1938 study.

Comparative figures on eight companies for the two years reveal that only two—General Electric and Westinghouse—increased their national advertising expenditures this year over last. The other six, including Frigidaire, Carrier, York, Frick, Sturtevant, and Ilg, showed reductions averaging from one-fourth to one-third as compared to the same period of 1938.

Largest expenditure reported for (Concluded on Page 14, Column 3)

Sheet Metal Workers, Insulation Installers Draw Up Pact

DETROIT—Installation of acoustical and insulating materials used in air conditioning, both in the field and in the shop, is covered by a recent agreement between the Sheet Metal Worker's International Association and the Association of Heat and Frost Insulators and Asbestos Workers.

Under the agreement, asbestos workers retain the right to install and fabricate all insulating materials, except those installed on the interior of sections which are fabricated on the bench in the shop.

Terms of the agreement follow:

"1. All insulating materials applied on outside of sheet metal ducts (Concluded on Page 2, Column 5)

Small Towns Can Get Frozen Foods In Dry-Ice Packs

CHICAGO—Distribution of frosted foods to the smaller towns—a development of major importance to the growth of the industry—has been made possible through use of a "dry-ice" container for delivery of L.C.L. (less than car-lot) shipments in freight cars, trucks, or by express.

Strengthening of this so-called "weakest link in the frosted foods chain" was reported at the frosted foods conference held in conjunction with the National Food Distributors Association convention here.

With the new L.C.L. shipment containers, it is possible to send a small quantity of frosted foods anywhere in the United States, taking up but a small portion of a freight car, or truck. Safely within these, the goods are kept at the necessary low temperature, while the rest of the car can be devoted to shipments of other materials.

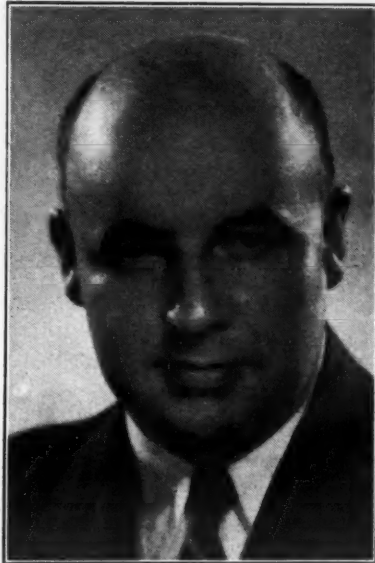
Before the development of these containers, frosted foods distributors either had to skip the smaller towns and carry their products from one large city to another, or else take the risk of softening up the frozen goods through repeated openings of the truck or refrigerator car door.

If the shipment of frosted foods was large enough to warrant the use of an entire refrigerated freight car or refrigerated truck, the goods were then delivered in excellent condition. But, on the other hand, if the shipment was not large enough to take over an entire vehicle—inadequate methods of freezing resulted. For instance, several packages of frosted foods would be put in the corner of a freight car or truck—some dry ice placed over this and a tarpaulin covering.

If the trip was long, the rest of the car would absorb the necessary sub-zero atmosphere (below-zero is the temperature required for proper shipment of frosted foods). Result was that, in many cases, the grocer received the package "slackened" (slightly softened). In realization of the fact that this should not be so, the dealer frequently placed the package in his frosted food dispensing cabinet, where it would be re-frozen to the proper temperature of several degrees below zero.

Unfortunately, re-frosted quick-frozen packages are not as satisfactory as slow-frozen packages are in the first place, and many a "bad package" has thus been given to the (Concluded on Page 13, Column 1)

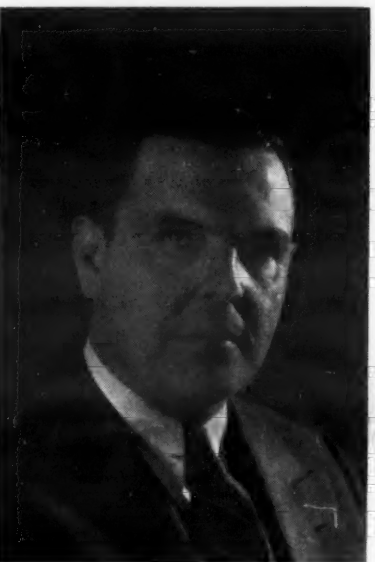
They've Stepped Into New Jobs



GEORGE G. WHITNEY
Advertising manager for Norge
appliances



BOYD W. BULLOCK
Advertising manager, specialty
appliance department of G-E.



GERALD HULETT
Returns as sales manager for
Electromaster, Inc.



THOMAS A. FARRELL
Eastern sales manager for
Kelvinator household division.

Kelvinator's Eastern Sales Territory To Be Under Farrell

DETROIT—Thomas A. Farrell has been appointed eastern sales manager for Kelvinator's household division, it was announced last week by Frank R. Pierce, Kelvinator general sales manager.

Mr. Farrell resigned recently as eastern sales manager of Frigidaire to take his new position with Kelvinator. Mr. Farrell served for 11 years with Frigidaire, being eastern sales manager for four years and prior to that regional branch and zone manager of the company in the eastern and southeastern part of the country.

Prior to joining Frigidaire, Mr. Farrell was for 10 years affiliated with the Hyatt Bearing division of General Motors Corp.

Committee To Guide G-E Advertising

NEW YORK CITY—Charles E. Wilson, executive vice president of the General Electric Co., late last week announced the appointment of a new committee to have responsibility for the policies and co-ordination of General Electric advertising.

Chester H. Lang of Schenectady, advertising manager of the company, is chairman of the committee and in this capacity will serve as a member of Mr. Wilson's staff in connection with advertising and publicity matters.

Other members of the committee are B. W. Bullock of Bridgeport, Conn., recently named as advertising manager of the appliance and merchandise department, and H. F. Barnes of Cleveland, sales promotion manager of the lamp department.

Whitney Will Direct Norge Advertising

DETROIT—George G. Whitney, formerly assistant advertising manager of Norge, has been promoted to the position of advertising manager, succeeding James A. Sterling, who recently was named merchandising manager for all Norge products.

Mr. Whitney has had extensive experience in advertising in both the refrigeration and automotive fields. For some time he was assistant advertising manager of the Olds Motor Works, and prior to that time held a similar position with another mechanical refrigerator company.

As assistant to Mr. Sterling for the past six years, he has become familiar with the Norge situation.

Boom In Early Summer Puts Philadelphia 6-Mo. Sales Well Above '38

PHILADELPHIA—Sales of household electric refrigerators in the Philadelphia territory totaled 38,088 during the first six months of this year, an increase of 46% over the 26,042 units sold during the same months of 1938, according to reports of dealers to the Electrical Association of Philadelphia.

Average unit price held steady for the two periods, this year's sales having a dollar value of \$6,628,376, or \$174 per unit, as compared with a volume of \$4,573,790, or \$175 per unit, in 1938. Dollar volume for the first half of this year represented an increase of about 45% over last year.

May and June brought the most notable gains in sales over corresponding months of 1938, although (Concluded on Page 2, Column 3)

Bridgeport Now Headquarters of G-E Appliances

**Announcement Is Made
As Bullock Is Named
Advertising Manager**

BRIDGEPORT, Conn.—In a move designed to further coordinate its various widespread facilities, General Electric Co. is shifting its specialty appliance division, long located at Cleveland, to new quarters here. Officials of this division are making plans for the removal of their families to Bridgeport, and the entire operation is to be completed by Nov. 1.

Another step toward the consolidation of all of the company's public relations activities has been effected by G-E with the appointment of Boyd W. Bullock as advertising manager of the company's appliance and merchandise department at Bridgeport.

The recently announced full-line appliance advertising program in national magazines, identified by the slogan, "It's Easy to Stay Young Electrically," exemplifies the type of advertising effort that will receive increasing attention under the new set-up, according to Chester H. Lang, general advertising manager.

Mr. Bullock has been associated with General Electric publicity, broadcasting, and advertising activities since 1922, when he was graduated from the University of Illinois. Up to the present, however, he has been concerned primarily with industrial and institutional promotion.

In 1923 the company's publicity department at Schenectady was being reorganized to consolidate several isolated divisions into a single unit which would be responsible for all advertising and sales promotion programs of the various G-E apparatus departments. Part of this reorganization involved the formation of a section devoted to market research and analysis, and this was Mr. Bullock's first assignment. After three years he became engaged in dealer promotional activities and the increasingly serious problem of distributing catalogs, handbooks, sales aids, direct mail, and the large amounts of similar publicity material, serving for two years as head of the department's distribution section.

Following this, Mr. Bullock began work on the company's institutional advertising program, and then in 1930 became division manager responsible for advertising products sold to electric service companies. In 1933 he was appointed assistant to the manager of the publicity department, and shortly afterwards, assistant manager.

The latter position also made him automatically assistant manager of broadcasting, and he subsequently has played a prominent part in the development of international short-wave broadcasting in the United States.

In his new capacity as advertising manager of the appliance and merchandise department, Mr. Bullock will make his headquarters in Bridgeport, and will direct the advertising and promotional programs for General Electric products sold to consumers. (Concluded on Page 2, Column 3)

Hulett Again Heads Up Electromaster Sales

DETROIT—Gerald Hulett has returned to Electromaster, Inc., manufacturer of electric ranges, as sales manager.

Mr. Hulett had headed up sales for Electromaster for some years up to 1937. At that time he joined the staff of Bendix Home Appliances, Inc. as a regional manager.

Following These 10 Rules Put Planned-Kitchen Selling In Profit Column For St. Louis Dealer

ST. LOUIS—Planned-kitchen departments offer an enticing potential source of extra profits to the major appliance dealer, but individual and special methods must be worked out in merchandising them—methods which don't necessarily apply to individual appliances, says R. S. McClure, refrigeration manager of Brandt Electric Co.

Mr. McClure has worked out a series of 10 recommendations, five "do's" and five "don'ts," which he says are vital to making a kitchen-appliance display pull its own weight. By following these rules, Brandt Electric has hit the unusually high percentage of one sale to every 20 prospects contacted in any way, and one sale to every 12 persons who actually attend a demonstration. These are "complete kitchen" sales, involving 16 individual appliances.

Here are the "do's" on Mr. McClure's program:

1. Lay out your kitchen with one idea uppermost—to stimulate sales of related appliances, rather than the three lead "majors": range, refrigerator, and sink.
2. Make your planned-kitchen display versatile and flexible, both from the standpoint of price and space.

It must be equally simple to figure before the prospect at \$550 or \$800, without sacrificing any of the compact efficiency which represents its main appeal. In the same connection, it also must be laid out so that refrigerators or ranges can easily be interchanged.

3. Allow a maximum of 6 feet from the "work center" or sink to any appliance or cabinet. Lay out the compact features of the planned kitchen so that any housewife can see at once the practical, as well as ornamental, features of the display.

4. Most important, use two, rather than one, planned kitchen displays, if possible—concentrating fixtures of steel in one, of wood in the other. Too many kitchen layouts frighten the prospect with the massive, expensive appearance. Showing two styles impresses her with its versatility.

5. Instead of "high-pressure," use "low-pressure" selling; simply compare the planned kitchen against the prospect's own as a modern automobile compares with the horse and buggy. Let the display sell itself; give the prospect plenty of time to "browse around" in the display.

These selling pointers are a direct (Concluded on Page 2, Column 4)

Month-By-Month Record For Philadelphia Shows Great Spurt In June

Month	1939 Units Sold	1938 Units Sold	1937 Units Sold	1939 % Inc. Or Decrease Over 1938	1939 Retail Value	1938 Retail Value	1939 % Inc. Or Decrease Over 1938	1939 Average Price	1938 Average Price
January	3,366	3,123	3,135	+ 8%	\$ 592,578	\$ 564,097	+ 5%	\$177	\$180
February	4,797	3,797	6,119	+ 26%	871,598	664,574	+ 31%	181	176
March	6,517	4,826	9,051	+ 34%	1,178,035	848,012	+ 38%	180	175
April	4,828	5,861	9,452	- 18%	837,398	1,037,313	- 20%	173	176
May	9,206	4,812	9,743	+ 91%	1,556,314	832,319	+ 88%	169	173
June	9,374	3,623	9,103	+158%	1,592,453	627,475	+153%	169	173
Totals	38,088	26,042	46,603	+ 46%	\$6,628,376	\$4,573,790	+ 45%	\$174	\$175

Six-Month Sales Totals By Philadelphia Electric Co. Show Big Gain In Average Price

Six-Month Totals	4,181	1,988	3,295	+110%	\$885,923	\$379,438	+133%	\$211	\$190
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Note: Utility sales approximate 11% of total sales.

Report covers sales in Philadelphia, Bucks, Montgomery, Delaware and Chester counties.

Report includes sales of the following makes: Coldspot, Crosley, Frigidaire, Gibson, General Electric, Hotpoint, Kelvinator, Leonard, Norge, Stewart-Warner, and Westinghouse.

Rate Cuts Publicized, Appliance Sales Boom

JACKSON, Miss.—Sharp increases in electrical appliance sales are being reported by dealers in this territory, as a result of a \$265,000 cut in rates by Mississippi Power & Light Co. and a campaign stressing the benefits of this "cheap electricity" on the claim that the cut gave consumers a chance to use 8 million additional kilowatt-hours at no additional cost.

Rate reduction followed the signing of contracts between the city of Memphis and Tennessee Valley Authority, under which Mississippi Power & Light was able to purchase some surplus power from TVA. The utility then launched a sales drive, with 36 roasters and 72 IES lamps as prizes in 12 separate contests for the best 50-word statement on: "I know that electricity is cheap because . . ."

Quota-breaking sales in all appliance lines are being reported by dealers, one refrigerator retailer reporting more units sold during the first six months of 1939 than were sold in all of 1938.

To be sure that every customer knows about the benefits offered in the new low rates, the utility's sales staff is contacting each of the 43,000 customers. Dealers have been provided with much extra promotional material, which tells the story of the benefits of cheap electricity and how to make best use of it through appliances.

According to the utility, the new campaign opens a \$31,500,000 appliance market, and will require \$5,300,000 worth of appliances to use the 8 million "free" kilowatt-hours. All appliance prospects obtained by utility men are turned over to dealers for follow-up and sale.

The 50 dealers whose sales during the three-month drive ended Aug. 31 were up most over comparable 1938 figures will be given special awards, says L. M. Taylor, sales promotion and advertising manager of the utility. Last year, dealers accounted for 95% of all appliances sold, and the utility is encouraging them to amass an even greater percentage this year, Mr. Taylor avers.

Madison, Wis. Licenses Second-Hand Stores

MADISON, Wis.—Used refrigerator sales are affected by an ordinance passed here licensing all second-hand stores, and requiring a detailed report on all purchases of second-hand merchandise.

Under provisions of the ordinance, dealers in used merchandise must pay \$50 a year for a license, and must obtain the signature of the seller. They are barred from buying second-hand articles from minors or from intoxicated persons.

Violators are subject to a fine of not more than \$100, plus the possibility of having their licenses revoked.

Although Milwaukee has an ordinance licensing second-hand dealers, reports are that sales of used refrigerators in some instances have involved units not in operating condition, resulting in a "black eye" for the local industry in general.

Stricter enforcement of the Milwaukee ordinance is reported being planned by the Household Furniture & Appliance Sales & Service Men's Union and the Electrical Workers' Union in that city.

Hotpoint Range Drive To Feature New Models

CHICAGO—Centering around the introduction of two new Hotpoint range models and tying in with Modern Kitchen Bureau's nationwide "Electric Range Exposition," Edison General Electric Appliance Co. will stage a range campaign of its own this fall with the slogan "Cash In on the Exposition."

This program, scheduled for September and October, will be carried out throughout the entire Hotpoint merchandising organization, but will be adapted to local conditions by individual utilities and independent retailers.

A complete new set of sales promotion literature and materials has been prepared for this campaign, and a special sales promotion package consisting of direct-mail pieces, display material, floor traffic novelties, and salesmen's helps is being made available.

Philadelphia 6-Month Sales Gain Was 46%

(Concluded from Page 1, Column 4) every month but one (April) in the period showed a substantial increase over figures for the previous year. June sales went 158% over that month in 1938, sales totaling 9,374 units as compared with 3,623 last year.

June sales also were 370 units higher than those for the same month in 1937, which totaled 9,103 units. Second-best month, May, showed total sales of 9,206 units for a gain of 91% over the 1938 mark of 4,812 units.

Sales during the period by Philadelphia Electric Co. showed an increase of 110% over 1938, amounting to 4,181 units as compared to 1,988 last year, and being approximately 1,000 units higher than those for the same months of 1937. Utility sales approximated 11% of the territory total.

Average price of refrigerators sold by the utility, usually from \$15 to \$20 higher than those for all dealers in the territory, this year are \$37 higher, indicating that the company's sales have been largely in the deluxe units. The \$211 average for the utility's sales this year is an increase of \$21 over its \$190 average for the first half of 1938. Total retail value of utility sales was \$885,923, compared with \$379,438 last year.

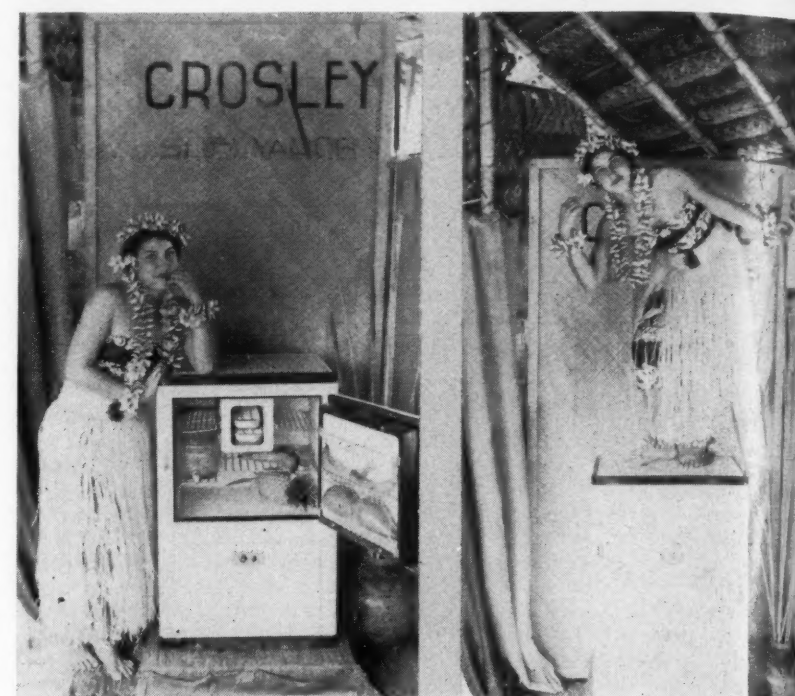
Bullock Heads All G-E Appliance Advertising

(Concluded from Page 1, Column 5) sumers through retail channels with the exception of heating and air-conditioning products but including refrigerators, ranges, water heaters, electric kitchens, dishwashers and disposals, radio and television, home laundry equipment, clocks, cleaners, fans, heating devices, and construction materials. He will have a similar responsibility for the products of the plastics department, located at Pittsfield, Mass.

Sterling Buys 'Fenwick Free'

BALTIMORE—James A. Sterling of Detroit, general merchandise manager of Norge, has purchased the property known as Fenwick Free in St. Mary's County, Md. The old house, located on a part of Cross Manor on St. Inigoes river, dates back to 1660. It was given to Cuthbert Fenwick by Lord Cornwylis, an original settler of Maryland.

These Stunts Are Probably Wasted on Tahitians



Because he owns and operates the Tahitian electric utility system, Emile Martin, Crosley distributor, has a monopoly on the sale of electric refrigerators in the Paradise Isle. Above, Hina Papa, Tahitian beauty, lends her charms to a 1939 model Crosley. Mr. Martin says: "This may stop you in America, but it's just routine life here in Papeete."

Display Kitchens Should Show Value of Both Large and Small Appliances, Says Dealer

(Concluded from Page 1, Column 2) result of a year's survey by Mr. McClure of his store's kitchen-merchandising program, which proved two major points: 1. That the average "hot" prospect was definitely interested in stepping up her kitchen efficiency this way; but 2. that general sales and display methods "frightened" away the big percentage from pure caution.

Brandt Electric has worked to eliminate these two objections, with the result that its twin kitchens are now familiar to thousands of St. Louisans, are built purposely to boost related-appliance sales in addition to the three major items, and are constructed so that each integral piece can be easily removed and the entire kitchen brought down \$200 or more without disturbing its general appearance.

Spacing on the 6-foot minimum plan ("Do" No. 3) is the result of querying women at demonstrations, which proved that the "two-steps-to-any-part" theme was the model kitchen's greatest asset. Steel and wood model layouts are presented side by side, emphasizing versatility, and displays are changed weekly according to wishes of cooking-school audiences.

This last move has practically wiped out the "too expensive" bugaboo, Mr. McClure reports. Demonstration-audiences are regulated, two prospects being permitted per salesman, so that sales effort isn't wasted. The salesman and his prospects eat lunch together at the demonstration, and he spends a half-hour with them after the meeting closes, permitting really personalized selling.

But planned-kitchen selling isn't all beer and skittles, Mr. McClure has found, so he urges close observance of five "don'ts" which he says are a certain drag on this type of selling. They are:

1. Don't over-do. Make the kitchen small enough that the prospect feels he can afford it.
2. Don't use the kitchen merely as

window-dressing. Make it tie-in with other merchandise, and build your prestige around it.

3. Don't go into planned-kitchen selling until you've made a thorough survey of the market, and a study of the idea. Too many kitchen displays are merely wasted overhead.

4. Don't let the kitchen be "dead-head" expense. Make it pull its weight with demonstrations, plenty of dramatized exhibition, and actual use.

5. Don't let discouragement rob you of possible whole-kitchen sales. Follow potential prospects for years, if necessary.

Installation Workmen 'Split Up' the Job

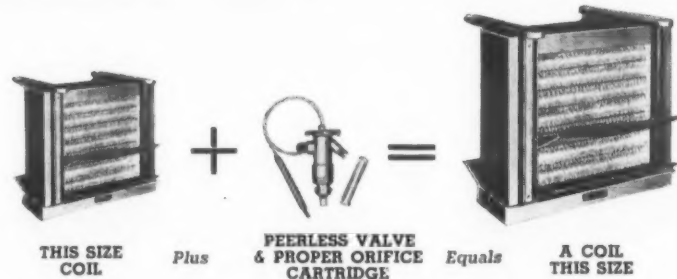
(Concluded from Page 1, Column 1) and fittings is recognized as coming within the jurisdiction of the International Association of Heat and Frost Insulators and Asbestos workers.

"2. All acoustical materials applied inside of sheet metal ducts and fittings, in shop or on job prior to erection of said ducts and fittings by Sheet Metal Workers, is recognized as coming within the jurisdiction of the Sheet Metal Worker's International Association.

"3. All acoustical materials applied inside sheet metal ducts and fittings on job after said ducts and fittings have been erected by Sheet Metal Workers is recognized as coming within the jurisdiction of the International Association of Heat and Frost Insulators and Asbestos Workers.

"4. Any dispute or controversy arising out of the application or interpretation of this agreement shall be referred to and settled immediately by the General Presidents of the two International unions involved, in accordance with the purpose and intent of this agreement." The agreement is signed by officials of the two unions.

PEERLESS ORIFICE CARTRIDGES INCREASE COIL CAPACITY



Adding a PEERLESS Thermostatic Expansion Valve, with the proper INTERCHANGEABLE ORIFICE CARTRIDGE, to a refrigerating coil increases the EFFECTIVE SURFACE at no additional cost. More surface is available for useful work—less is wasted in picking up superheat. More refrigeration is accomplished, with less starting power and running time. The PEERLESS Orifice Cartridge includes ten different orifice sizes—all interchangeable—and available only in PEERLESS Thermostatic Expansion Valves.

STOCKS IN ALL PRINCIPAL CITIES . . . SEE YOUR REFRIGERATION PARTS JOBBER.

PEERLESS OF AMERICA, INC.

MIDWEST FACTORY, GENERAL OFFICES—515 W. 35TH STREET, CHICAGO
NEW YORK FACTORY PACIFIC COAST FACTORY SOUTHWEST FACTORY EXPORT DIVISION
43-20 34th STREET 3000 SOUTH MAIN ST. 2214 N. HARWOOD ST. P. O. BOX 636
LONG ISLAND CITY LOS ANGELES, CALIF. DALLAS, TEXAS DETROIT, MICH



BEHIND the POST

KRAMER

MULLION UNIT COOLER

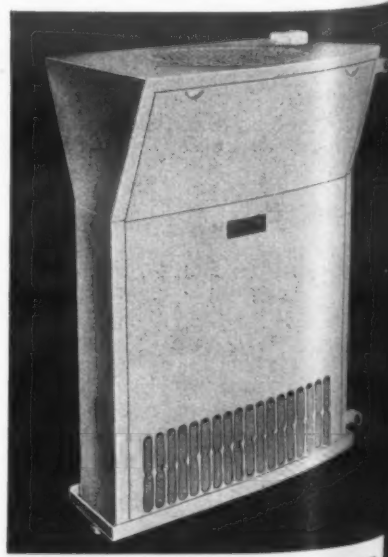
Particularly useful in reach-in refrigerators and counters.

Designed to be located behind the center door post. Air intake at top, fan in horizontal plane. Discharge in two opposite directions or straight down. Central location assures uniform temperature distribution.

Made in four B.T.U. capacities.

KRAMER

TRENTON AUTO RADIATOR WORKS
TRENTON, N. J.



LEONARD DIVISION
INTERDEPARTMENTAL LETTER

To Ray Legg, Sales Mgr.
From George W. Mason, President
Subject Leonard for 1940
Date September 15, 1939
Division Leonard
No.

Ray:

This isn't an official memo. It's a note of congratulations.

I have just placed my final OKay on the specifications for the 1940 line of Leonard Refrigerators. I think the 1940 Leonard Product, representing the combined thinking of our Engineering department and your own Leonard Sales department, is going to be without a question of a doubt the best line Leonard ever had - it's going to surprise everyone in the industry.

The official "go-ahead" for regular production was signed this morning.

Cordially,

George W. Mason

YOU'LL LIKE LEONARD in 1940

Profitable Sales Ideas

'Neighborly Visits' Pave Way To Sales In Working With Farm Prospects

MONTROSE, Colo.—"If you want to sell farm customers, you've got to be willing to make two or three friendly calls on them before ever broaching the subject of merchandise." So says Frank Boruff, head of Montrose Electric Co., who is capitalizing on rural electrification through this territory to develop more than half of his appliance business.

Rural electrification has meant much to the people of the vast trading area which surrounds Montrose. And it has created a great new market for electrical appliances. But at the same time it has called for development of a new sales technique—one which will probably be of interest to dealers all over the country who are now beginning to cultivate new markets created by rural electrification projects.

"Judging from our experience here, rural electrification in most any territory will mean creation of a new market which is good for at least five years of intensive cultivation," says Mr. Boruff.

"I look for our rural electrification to continue bringing a steady flow of year-around business. Judging from present indications, it's going to be just about as easy to sell refrigerators to farm customers during the winter as in the summer.

"One advantage of the winter approach lies in the fact that the average farmer has more money to spend then than in the summer. He has been paid for his crops and has capital to go on from the late fall on through the winter. Then, too, since electricity is something new for the farm people, there should be a strong value in the Christmas gift appeal on appliances. There are few gifts that would have a stronger appeal to the farm woman than an electric refrigerator."

Like most anything else that's worth having, the farm business has required lots of work. Covering one whole county and part of another, Montrose Electric Co. men sometimes have to travel 25 or 50 miles to see a single prospect. Of course, houses aren't always scattered that much. But on the average, a salesman has to drive two or three miles between stops.

"The most important thing I've learned about getting this farm business is the value of patience," says

Mr. Boruff. "It doesn't pay to try and rush the average farm customer. He isn't in the habit of buying from strangers. You've got to establish yourself with him before ever talking merchandise, or he'll very likely distrust you.

"Of course, it takes longer to make a sale in this way. But I've found that when you do make a sale, the appliance usually stays sold. Furthermore, the customer sold on this basis seems to come back next time he's in the market."

Practically all the farm business developed by the southwestern Colorado dealer to date has come from personal solicitation carried out on a long-range basis. Boruff or his salesman starts out with a truck carrying samples of several major and minor appliances—washer, vacuum cleaner, iron, and mixer—and stops at every farm home along a previously selected route.

On first calls, the truck is parked well out of sight. No reference is made to merchandise unless the prospect shows a very definite interest in making an immediate purchase. Sometimes, Boruff won't even identify himself as to company. He simply talks about the farmer's interests, inquires about his crops, his stock, or what have you.

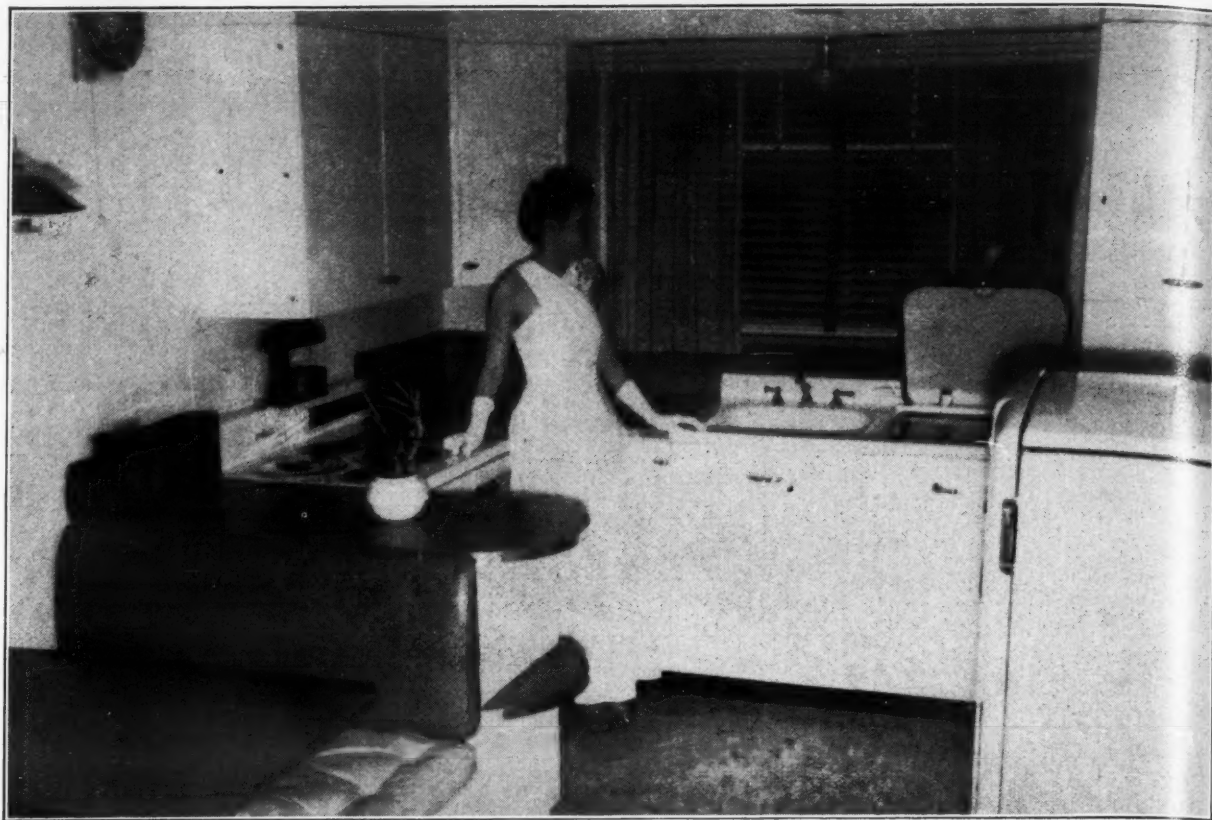
Of course, the procedure is varied according to the individual, but oftentimes Boruff makes no attempt to sell until after the second or third friendly call.

By keeping the truck loaded with merchandise, the salesman is ready to demonstrate whenever the opportunity arrives. Another advantage of carrying the sample stock is that straight "cultivation" calls can be mixed in with actual selling calls. One farmer may not have been home when Boruff made the first round of a territory. So the second trip will necessitate a straight cultivation call on that man. His neighbor, on the other hand, may be ready to see merchandise. When you're traveling miles between stops, you have to take them in sequence.

While farmers as a rule are more cordial than city folks, the country territory also has its cranks. A sense of humor is the salesman's greatest asset in meeting such conditions.

Take the case of the farm wife who, coming to the door when Boruff

Who Wouldn't Be Attracted To A Kitchen Like This?



Focusing the attention of visitors to the "House That Talks" on the cleanliness of modern electric kitchen conveniences was this white-gowned hostess, who pointed out features of the various appliances used in the kitchen. She performed all kitchen tasks such as cooking, dishwashing, and waste disposal without even the slightest muss or damage to her spotless attire. To show that electric cooking is sootless, she wiped the bottom of utensils with her gloved hand.

knocked, snapped: "If you're the Fuller Brush man, I don't want to see you."

Boruff's quick come-back was: "No, I'm not the Fuller Brush man, but I'm probably worse." The prospect couldn't help but laugh—and the ice was broken. "After a couple of friendly calls, Boruff sold her a washing machine, and later on a refrigerator."

'Three Little Fishies' Are Real Bargain Bait For Appliance Prospects

WILLIAMSPORT, Pa.—Using a low-priced bargain item that has general appeal as a traffic builder, Neyhart's, Inc. here has cashed in on leads gathered from the bargain-hunting crowds and has increased its business 25% over last year. Sales this year have climbed to 250 electric refrigerators and 750 ranges.

One of the most successful traffic builders used was an attractive variation of the "three little fishes." The store offered a glass goldfish bowl and aquarium plants, and although they included only two of the "fishies," three gross of the bowls were sold in three hours at nine cents per entire outfit.

Pittsburgh's 'House That Talks' Tells Own Story Of Modern Housekeeping's Advantages

PITTSBURGH—Kitchens do sell houses. Olsen Construction Co. proved this with its "House That Talks," which told a story of modern materials, careful planning, and the utilization of the latest electrical appliances to increase comfort and convenience and lessen household labor.

Tried out for the first time in the Olsen building development in Vernon Park subdivision, near Pittsburgh, the "House That Talks" idea, originated by the advertising and sales promotion section of General Electric Co., pulled 24,000 people to the house during the first week it was open, sold a house the first day, and six more in the next two weeks.

Mechanics of the "House That Talks" were comparatively simple. A two-way communicating system was placed in five strategic positions in the house. An operator, concealed and at a distance, could overhear the conversation in any room where there was a station, and could answer any remark made by a person viewing the house.

The effect was startling, and, to many people, mysterious. The "voice" introduced itself as the

"ghost of the servant in the house," banished by new electrical servants. Thus attention was directed to the contrast between the modern house and that of yesterday.

Focal point of interest in the house was the kitchen. Complete with electric sink, range, refrigerator, and cabinets, it included a breakfast nook and serving bar. An attractive young lady, dressed entirely in white, demonstrated the various appliances. Occasionally she passed her white gloved hand across the bottom of a utensil to show that electric cookery is clean—free from soil or soot.

With her gloved hands she disposed of food wastes in the Disposall. The dishwasher attracted much attention, as did the cabinets with their automatic interior illumination.

In the house's basement, the G-E Magic Kitchen gave a continuous performance, telling in another manner the same story of contrast as recounted by the mysterious voice in the "House That Talks."

An ingenious "X-Ray" method was used to call attention to points of quality construction in the adjoining stone house, partially constructed.

What Concern uses This Part?

Fabricated from Wolverine soft Copper Refrigeration tubing, this part is used in thousands of refrigerating units.

For this part, the manufacturer wanted the best; so he specified Wolverine—the same clean, dry, soft copper refrigeration tubing that's on hand at your jobbers.

Sure you've seen it

Every busy service man has encountered it many times. It's always on the job—doing a good job—that's why most refrigeration service men insist on Wolverine.

Most of the larger manufacturers of refrigeration equipment demand Wolverine Copper Tubing. That's recommendation a plenty for you.

Ask Your Jobber

for

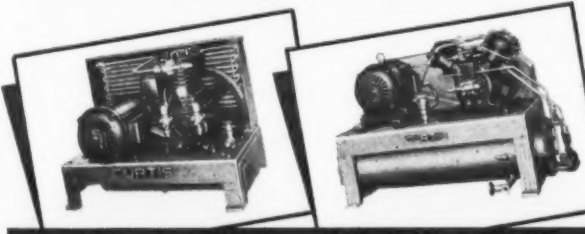
**WOLVERINE COPPER TUBING
CLEAN — DRY — SOFT**



WOLVERINE TUBE COMPANY
1413 CENTRAL AVENUE DETROIT, MICHIGAN



Installation of Two Curtis Store and Office Coolers in the Sonice Buffet, New York City.



48 Air Cooled Units — 45 Water Cooled Units
— 1/6 to 30 H.P.



"Builders of Condensing Units Since 1926"

**Curtis Refrigerating
Machine Company**

Division of Curtis Manufacturing Co.
1912 Kienlen Avenue, St. Louis, Mo.

The Completeness of the CURTIS Line Assures the Correct Equipment for Every Air Conditioning or Refrigeration Need

WHETHER you buy, sell, install or specify air conditioning or refrigeration equipment, there's a Curtis unit that fulfills every requirement. Curtis covers a wide range of markets—makes possible greater sales. And you can specify Curtis products with absolute confidence.

The Curtis Store and Office Cooler fulfills the air conditioning demands of all classes of retail establishments. It's a complete factory designed, packaged air conditioning unit. It mechanically cools, dehumidifies, circulates and filters the air—is quickly and easily installed with only water and electrical connections needed—adaptable for heating, too. It is offered in 3 and 5 ton sizes.

The Curtis Line of Condensing Units includes sizes from 1/6 H.P. to 30 tons air and water cooled—also unit coolers, coils, evaporative condensers, etc. Every Curtis product is precision engineered to deliver economical, efficient, care-free performance throughout an exceptionally long life.

Air Conditioning

Hospital Scientist Finds Air Filter Removes Pollen

NEW YORK CITY—A room ventilator using new type air filter that should prove a boon to hay fever victims was reported by Prof. F. H. Hodgson, department of allergy botanist at Roosevelt Hospital, after a series of tests with the filter which showed a 99% removal of ragweed pollen.

The filter is constructed of gauze-like screens, and is tightly fitted against felt seals, so that all air bearing pollen is made to impinge on and pass through the filter.

In conducting the tests, Prof. Hodgson used two rooms—a test room and a check room. Pollen sufficient to show a count of 1,000 grains per square centimeter of test plate were dispersed in the check room and 700 grains in the test room. The room ventilator was used in the test room, but not in the check room.

After one test, slides coated with vaseline were rotated in the two rooms. In the check room where no filter was used, the slides showed the original count of 1,000 grains of pollen per square centimeter. However, the air in the filtered room had only two grains of pollen per square centimeter—an improvement of more than 99%.

Similar results were found in using the room ventilator with a supply of outdoor air.

Here is a general summary of Prof. Hodgson's report on his laboratory tests:

A. General efficiency. There is a complete clearance of pollen in less than two hours from a moderate size room with hundreds of times the normal pollen load.

B. Effect on room pollen count of a single passage through window ventilator filter. Upwards of 98% of the pollen entering the unit from the room is removed in one passage through the unit.

C. Effect on purity of air leaving unit. Very high concentrations of pollen entering unit were completely removed and air leaving unit was pollen free.

D. Speed of filtration. One-half hour operation of unit recirculating room air is sufficient to reduce pollen count of that room to a practical minimum.

E. Open windows. A window on one side of the room may be partly opened after one-half hour of operation, provided operation of unit is also continued, and there is no strong wind.

Cooling System Attracts Loan Company Patrons

NEW ORLEANS—To give loan and finance customers the utmost in comfort while visiting the company, the First Homestead & Savings Association recently authorized the installation of a 7½-ton air-conditioning system.

H. C. Steger, president of the concern, reports that customers are inclined to spend more time in the building, and that new customers have been attracted.

The conditioning unit, which was installed by the local Frigidaire branch, is located on the mezzanine of the building, with the compressor in an unused space on the second floor.

Evaporative Cooler Built For Diesel Engine Use

LA CROSSE, Wis.—An evaporative cooler, designed to cool liquids in a closed system, has recently been announced by Trane Co. Engineers for the company state that the new unit may be applied to cooling diesel engines, dehumidifying liquids, transformer oil, and quenching oil.

Capacities range from 2,000 to 20,000 c.f.m.

Direct Velocity Readings Given By New Instrument

BALTIMORE — Static pressures, air velocities, and stack drafts may now be measured from a pointer and graduated scale on a direct-reading "Airmeter" recently announced by Julian P. Friez & Sons.

The Airmeter has a pressure range of from 0 inches to .3 inches of water, and a velocity range from 300 to 2,000 feet per minute. The velocity scale is divided into four banks, each calibrated for a typical air temperature, and readings at other temperatures can be interpolated over the entire range.

The new instrument is protected by a steel slip-cover, and is finished in gunmetal color.

Offices Lead Conditioning Jobs In New York; Chicago Sales Drop Sharply In August

NEW YORK CITY—Twenty-three installations of air-conditioning equipment were made in the metropolitan New York area during August, according to statistics gathered by Consolidated Edison Co.

This brings to 360 the total number of installations made in the territory so far this year.

Private offices led installations for August, with eight, with restaurants and retail stores close behind with five installations each. Two systems were put into service in private residences during the month.

Classified list of August installations is as follows:

Residential	2
Beauty Shop	1
Private Offices	8
Restaurants	5
Retail Stores	5
Bakery	1
Misc. Industrial	1
Total	23

CHICAGO—Sales of air-conditioning equipment took an all-around drop in August as compared with the same month last year, dealer reports to Commonwealth Edison Co. indicate.

Central-station systems dropped to 19 this year, as compared with 22 last August, and room coolers were down to 43 units from a 58-unit total in 1938. Capacity of systems sold during the month also was well off 1938 figures, amounting to 167½ hp. as compared with 650 in the month a year ago.

Classified list of central-station systems sold follows:

General Offices	9
Clothing Stores	2
Drug Stores	2
Industrial	2
Food Store	1
Electrical Store	1
Restaurant	1
Funeral Parlor	1

India Presents Markets For American Systems; Movie Houses Cooled

BOMBAY, India—Potential demand for air-conditioning equipment in India is promising, the American Consulate here reports, but general use of the equipment has been halted by high cost of equipment and installation, and the belief that artificial cooling of air is unhealthful.

Three motion picture houses in Bombay have been air conditioned, as well as a number of other business and residential premises.

American air-conditioning equipment gets most of the available trade, due primarily to its quality and to the technical assistance furnished in installing and servicing the units.

Several American firms are represented in Bombay, either through branches or through agents, and one British make also is sold here, according to the American Consulate.

At the New York World's Fair,

exhibitors are using 5,656 tons of comfort

air cooling, and a Freon

Refrigerant is used in every ton!... Freon

Refrigerants have all the qualities desired

for commercial and household

refrigeration. Be sure to specify

them in your next installation...



KINETIC CHEMICALS, INC...TENTH & MARKET STREETS...WILMINGTON, DELAWARE

Service Men's Problems

Jobs Seek the Man Who Has Zeal For Community Service

Ben Dickter
Refrigeration and Air Conditioning
Sales—Service
36-20 164th St.
Flushing, L. I., N. Y.
Sept. 11, 1939

Gentlemen:

It is interesting to note the discussions raging in your newspaper relative to the service man's problems.

While most of them loudly proclaim their superior qualifications and bemoan their inability to secure a job in the industry, yet subconsciously they admit of their inferiority. The trouble with them is their attitude towards society in general and towards the refrigeration and air-conditioning industry in particular.

The industry does not owe anyone a job regardless of the time, money, or effort spent in mastering the principles of refrigeration and air conditioning or how efficient they may be as a service man mechanically.

What the industry is interested in is how much can you contribute to create a job for yourself and for

the many people engaged in the line. The method to pursue is to induce more people to enjoy the comforts of air conditioning, refrigeration, etc.

Many of your friends and relatives have refrigerators which may need repairs. Can you sell your services to them who know you best? Can you sell them new equipment? The greater use of more equipment by more people will create more jobs for yourself and many others engaged in the industry.

When the Curie's were working on Radium and discovered the process of extracting radium from pitchblend did they ask what reward will we get? Did they even patent the process to earn their just rewards? Certainly not! But they bequeathed their hard work, their sufferings, and expense for the benefit of humanity.

Every person and especially a service man needs to devote a certain amount of time and efforts gratis for the benefit of his community and his fellow men. There are thousands of fraternal organizations, churches, social, benevolent

societies in the U. S. Active work in these organizations will imbue many a person with a zeal for social service. Jobs will actually be thrown your way for accomplishments. Your acquaintances and friends will grow in ever widening numbers. Your capable handling of small tasks assigned to you will gain people's confidence in you and your ability. Mingled with these gratis jobs will come many an opportunity for real earnings, if you only keep alert and an open eye for business in a subtle way.

From the point of view of service to your fellow men, jobs will seek you out instead of your wearing out shoe leather trying to find a job. Men of ability will be sought after by large organizations and the highest rewards will be paid for good service rendered. With that attitude towards society and the industry you will be astounded at the great amount of work there is to be done, but, oh what little time there is to do it in.

Respectfully submitted,
BEN DICKTER

Future Subscriber

315 Tremont St.
Fall River, Mass.
July 31, 1939

Sirs:

I have received the Manuals Nos. 1, 2, 3, C-1, C-2, and C-3 and am well satisfied with them and know they will be of great practical value to me.

I also received a copy of the publication AIR CONDITIONING & REFRIGERATION NEWS. I find this very interesting and instructive. In the near future I intend to become a subscriber to this publication.

JOHN F. HARRINGTON

Problems of Dealers and Service Men Are Pretty Much Alike

North Plainfield, N. J.
21 Linder Ave.
Sept. 2, 1939

Dear Sir:

The letters and articles of comment and advice running currently in the News in consequence of my letter published in the issue of Aug. 16 are proving most interesting and informative. Mr. Wilson's article in the current (Aug. 30) issue, relative to the sales angle of entry into the business contains considerable meat worthy of consideration. While I do not agree with all his statements as far as the eastern part of the country is concerned, no doubt they

are true in Kansas City.

I have talked recently with quite a few service men and some dealers and find that they all have problems pretty much similar. In the near future I will compose a letter to you outlining what I have learned locally and make some definite comment on some of the letters recently published including the advice you and others have offered to myself and others.

I am sure that we embryo service men owe you a vote of thanks for bringing these problems out in the open. You will hear from me again very soon.

O. A. FUSCH

Believes Salesman's Income Is No Better Than a Laborer's

106 Second St.
Ellwood City, Pa.

Editor:

As I am now out of the refrigeration industry I will not need the "News."

I always liked the "News" very much, and I think it covers the field very well.

Also, I have always been much interested in Refrigeration and Air Conditioning.

However, in my opinion, the industry will soon have to change its policy of trying to live at the expense of its salesmen. Nine out of 10 of all their salesmen I have

ever known have failed to make better than a laborer's income (net), and were held in the industry solely by the rainbow on the horizon. So far, for the past 10 years or more, the rainbow has not been brought any nearer—for the salesmen—in spite of the money spent in advertising and publicity.

Such a condition cannot last forever, and I believe it must be changed before the industry emerges from the fly-by-night or half bankrupt condition it is in today. Very, very few, from the largest to the smallest companies in the business don't fit either or both of the above characteristics.

FREDERIC M. SMITH

Two-Boiler Hook-up Data Sought

Hewlett Bros.
General Merchants
Westbank, B. C.

Sirs:

Please send us by return mail your Master Service Manual covering commercial and household refrigerators. We particularly want service data on Frigidaire SO₂ system with two-boiler hook-up for ice cream cabinet and soda fountain cooler, also on Kelvinator counter display case and cooler which we understand will be contained in this manual.

H. C. HEWLETT

Answer: The Master Service Manual of Commercial Refrigeration, No. C-3, will give you the service data requested on the counter display case and cooler. This manual sells for \$1.00 per copy.

For service information on the Frigidaire system with the two-boiler hook-up for the soda fountain you will require a copy of Manual SF-1 on soda fountain refrigeration. This book is now available and sells for \$1.00, or may be obtained free with a 6-month subscription to the News for \$2.00.

'Of Great Help', Says New Subscriber

Charles F. Frank
Electrical Contractor
Refrigeration Service
181 Griffith St., Jersey City, N. J.
Sept. 2, 1939

Sirs:

Kindly send me the two book folder on "Soda Fountain Lay-outs" as advertised in your recent publication. I have only recently subscribed to your magazine but I have found it to be of great help to me already.

CHAS. F. FRANK

Exams 'Made Easy'

4948 N. Hamilton Ave.
Chicago, Ill.

Sirs:

Please send me the following books as soon as you possibly can "rush them to me." I had to send to New York for your address and need them for my laboratory exams. You can C.O.D. the cost of rushing them to me. I am enclosing \$10 P. O. M. O. to cover price of books.

Commercial Refrigeration Manuals: C-2 and C-3.

Air Conditioning Manuals: A-1, A-2, A-3, A-4, A-5, A-6, A-7, and A-8.

A. W. LEWAND

Answer: Manual A-8 is not yet published. It will be a reference book containing air-conditioning data.

'Very Interesting'

161 Erie Ave.
Gowanda, N. Y.

Sirs:

Enclosed is \$5 for which please send me Manuals Nos. 2, 3, 4, C-2, and C-3. I find the News a very interesting magazine and hope you keep up the good work.

WILLIAM J. GOMINIAC

Wants the Book

3308 N. Kipp St.
Philadelphia, Pa.

Aug. 21, 1939

Sirs:

Enclosed you will find 20 cents for which I would like to have the first 10 articles on soda fountain refrigeration.

If the rest of this series is made up in book form I would like to know how I may purchase them. I have saved all of these articles since I have been receiving the News and have found them very helpful.

ERNEST DYSON



WINTER IS COMING

AND WITH IT MEAT BOX SERVICING

You know from past experience the difficulties in keeping a meat box operating to the satisfaction of the proprietor. You have probably heard all about the slimy meat that had to be trimmed and thrown out because the refrigeration system did not keep it in prime condition. And that proprietor naturally blames you for all these losses.

You can stop all that, keep the owner satisfied, and eliminate service trips by installing a Detroit No. 450 Meat Box Control on his system.

The No. 450 Meat Box Control tends to eliminate the objectionable conditions in the winter time that result in slimy meat. It carries an external cold control that permits the user to vary the temperature of his meat box or display cases without altering the defrosting cycle. It prevents long off cycles when temperatures around the compressor get close to, or below, freezing point, and it prevents the freezing of water cooled condensers.

The Meat Box Control is but one Model of the complete No. 450 series. Other models for pressure and temperature are likewise available. No. 450 Refrigeration Controls can now be supplied for Direct Current loads up to 1 H. P. at 115 or 230 volts. • Write for further details.

Take Advantage of your Jobber's Cooperation

DETROIT LUBRICATOR COMPANY
General Offices: DETROIT, MICHIGAN
Canadian Representatives: RAILWAY AND ENGINEERING SPECIALTIES LIMITED, Montreal, Toronto, Winnipeg



It has EVERYTHING!
SQUARE D CLASS 9150 SOLENOID VALVE

LONG LIFE—tested for more than 3,000,000 operations without failure. **QUIETNESS**—shading coil construction. **HERMETICALLY TIGHT**—tested at 3,000 pounds per square inch pressure. **MOISTURE PROOF**—by submersion test extending over a period of months. **TIGHT CLOSING**—because of extremely hard stainless material in needle and seat. **EYE APPEAL**—forged brass body and blue cover combine to give attractive modern design as well as utility.

Bulletins on Square D Refrigeration and Air Conditioning Products on Request

SQUARE D COMPANY
REGULATOR DIVISION
DETROIT, MICHIGAN

Jobber Inquiries Invited

Commercial Refrigeration

Refrigerated Case Aids Candy Sales

**Colorado Confectioner Uses Cooling Systems
Designed To Fit Into Existing Display Cases**

PUEBLO, Colo.—Judging from the experience of Borg's Candies, this city's largest manufacturing retail confectioner, the candy store should be an excellent prospect for mechanical refrigeration.

This company's reports show that its year-around chocolate sales have been increased to a new peak as a result of installing a modern refrigeration system in its two chocolate cases. The company formerly had to practically discontinue handling chocolates five months of the year. Now, more than fifty varieties of this merchandise are featured constantly during that period, and are sold in large quantities.

"That's almost half of the year in which we formerly had to almost discontinue chocolates," proprietor E. A. Borg points out. "Now we're selling them through that period. Our experience indicates that, hot weather or no hot weather, people want chocolates during the summer as well as during the winter. But, of course, they won't buy them in semi-liquid form. The demand is here the year around. It's keeping conditions that determine the summer market."

WHAT IT COSTS

The Borg system is a specially designed Westinghouse job, installed at a cost of \$350. Operating cost is reported as "so small we can hardly notice it on the light bill." The company's first experiments with chocolate refrigeration by ice were unsatisfactory, both from the standpoint of cost and temperature control.

"Freon-12" is the refrigerant used. Coils for the system are installed right under the top shelves in the two 6-foot chocolate cases. Sheet metal pans under the coils take care of moisture from defrosting. The installation was made without defacing the existing cases, and without excessive cost.

TEMPERATURES KEPT

Although the cases are thermostatically controlled for maintenance of temperatures in the range between 62 and 68° F.—the ideal temperature for keeping chocolates—this confectioner keeps a thermometer in each case for sales purposes. Experience showed that exhibition of a thermometer showing a temperature of around 60° on a hot summer day invariably makes a strong impression on the customer, leads him to tell his friends about the store.

The company has also taken advantage of the refrigeration system from a general merchandising standpoint. A sign posted on each of the refrigerated cases reads: "These cases are refrigerated to insure you of receiving perfect chocolates at all times."

ADVERTISES COOLING

Throughout the summer months, the company also uses as its window centerpiece a showcard which carries this copy: "Our chocolate cases are refrigerated. That's how we serve perfect chocolates during warm weather."

The Pueblo confectioner had the specially designed refrigeration system installed in his existing cases, rather than buying standard refrigerated cabinets, because of the peculiar display requirements of his line of merchandise. To display the more than fifty bulk and package items he wanted to show, high, full-glass cases were essential. The type of refrigerated cabinet used satisfactorily in many other lines wouldn't have done the job.

BENEFITS DESIGNATED

Mr. Borg makes one observation regarding the value of his refrigeration system which should be helpful in selling other similar installations: "The value of a thing like this doesn't stop with the immediate extra sales. Our refrigerated cases have undoubtedly created many new year-around customers. When a store establishes a reputation for

service along this line and draws new people during the summer months, those customers are going to keep on coming throughout the year."

Refrigeration value of the cases isn't confined entirely to the summer season. During busy holiday seasons, when the store is hot and stuffy from heating and the presence of many people, turning on the refrigeration system for a few minutes at a time insures keeping of the chocolate stock in prime condition.

Forest Junction, Wis. To Have Locker Plant

FOREST JUNCTION, Wis.—A cold storage warehouse is being erected here by Krueger Bros. at an approximate cost of \$7,525. Bay Appliance Co., Green Bay, Wis., is furnishing the lockers for this project.

400 Locker Plant To Go Up For Farmers In Southwestern Alabama

MONTGOMERY, Ala.—Location of a \$15,000 cold storage plant at Demopolis to serve a wide area of southwestern Alabama has been announced by the industrial committee of the Alabama State Chamber of Commerce.

The new cold storage plant will have 400 lockers, half of which will be used for storage and half for curing. It will be equipped with facilities for chilling, aging, processing, quick freezing, and smoking. It will operate under the name of Watson Cold Storage Co., of which J. C. Watson is president.

Ice Gets an 'Assist' on An Installation Job

GHENT, N. Y.—Bert Smith, who sells General Electric commercial refrigeration equipment here, recently proved his claim to ingenuity in installation as well as sales work, when he made an unassisted installation of a six-can milk cooler.

He rolled the cooler off the truck and onto two 300-lb. cakes of ice. Using the ice as a skid, he moved the equipment into position. By morning the ice had melted, and the cooler was in place.

Representative Named For 'Tenderay' Process By Westinghouse

BLOOMFIELD, N. J.—Kirke L. Bonnell, for the past five years president, treasurer, and director of Central Breweries, Inc., St. Louis, has sold his financial interest in and resigned from his connection with this company to become a special representative for the "Tenderay" process of meat tenderizing being promoted by the special products division of Westinghouse Electric & Mfg. Co. He will make his headquarters at the company's lamp division here.

The Tenderay system, which involves use of Westinghouse's bactericidal "Sterilamp," is said to reduce the time required for tenderizing beef from several weeks to only a few days or hours. It seems that bacterial action is so greatly retarded by the lamp's ultra-violet rays that high temperatures are possible, and as a result the natural chemicals in the meat reduce the length of the tenderizing period.

In addition to his association with Central Breweries, Mr. Bonnell has been a member of the purchasing department of the Missouri Pacific Railroad, purchasing agent of Brecht Co., St. Louis, from 1912 to 1922, and secretary-treasurer of the Bonnell Tohtz Co., also of St. Louis, from 1922 to 1932.

Cooler Introduced For Fountain Replacement

DETROIT — Temprite Products Corp. recently has introduced an instantaneous soda fountain water cooler, adaptable either for installation in new fountains or for modernizing existing equipment.

In addition to providing instantaneous cooling and quick recovery to normal operating conditions after overloading periods, the unit also is claimed to guarantee a temperature control of plus or minus 1° at the cooler from the 40° standard for such coolers.

Another advantage claimed for the equipment is that it takes up little space, and so provides more space in the fountain storage compartment. It also is claimed to insure more uniform ice cream temperatures, since the Temprite unit operates only when water is being drawn through it, leaving the entire capacity of the condensing unit available for refrigerating the ice cream and storage compartments at all other times.

The coolers are available in two sizes, with each of two coils; a copper coil for cooling city water and a stainless steel coil for cooling carbonated water. Units in the 15-series are recommended for fountains of small requirements, including bobtail fountains. For other installations, the 25-series cooler is specified.



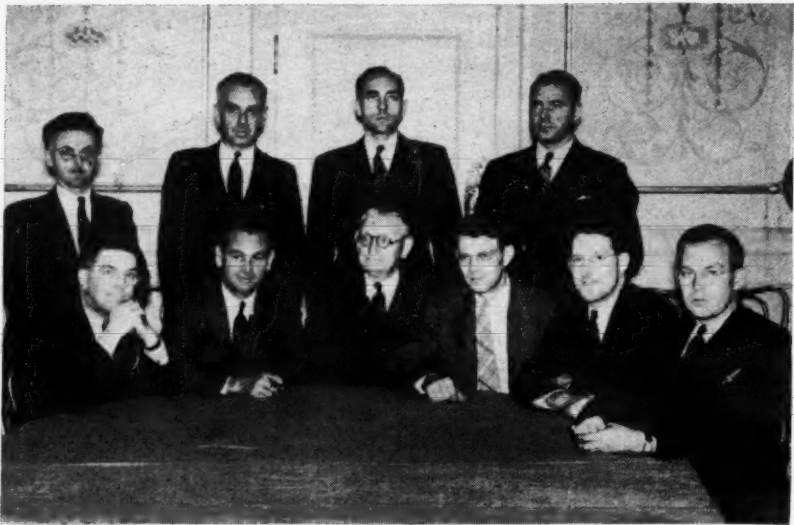
Every Brunner Unit is tested for Underwriters' Laboratories Approval and Carries the U. L. Seal

Basically, a condensing unit is a mechanism for the transfer of heat. The more efficiently that heat is transferred (or dispelled from the refrigerant) the more economical is the refrigeration. To this end, the design of Brunner cylinders and cylinder heads lends a hand. Cast with extra large fin surfaces, the external cylinder area radiates heat sufficiently from the walls to maintain the lowest possible temperature. Similarly is heat dispelled from the large fins of the cylinder heads—and here, by promoting more rapid radiation, gives the added advantage of

a temperature sufficiently low to prevent the circulating oil from oxidizing. In short, while these fin surfaces become hot, extreme temperatures of the ordinary fin designs are avoided, with a consequent gain in overall refrigerating efficiency... Operating advantages such as these are embodied throughout the entire Brunner design. Better investigate Brunner refrigerating and air conditioning equipment today is cutting costs on all types of installations up to 15 tons of refrigeration. Catalog on request. Brunner Manufacturing Co., Utica, N. Y., U. S. A.

The Symbol of **BRUNNER** Dependability

Forward-Looking Pacific Coast Jobbers



When the members of the Pacific Coast Jobbers Association met recently in San Francisco they spent part of their time seeing one big show—the Golden Gate International Exposition—and made plans for a trip to the industry's "big show"—the Second Annual All-Industry Refrigeration & Air Conditioning Exhibition to be held next January in Chicago. In this group of the Coast jobbers are, standing (left to right): L. P. Roth, Refrigeration Service, Inc., Los Angeles; By Watters, Pacific Metals Co., San Francisco; Lem Branson, California Refrigerator Co., San Francisco; Art Tudury, Refrigerating & Power Specialties Co., San Francisco. Seated: Walter Schroeder, Pacific Metals Co.; Frank Gillett, Frank Gillett Co., Los Angeles; Clarence F. "Sandy" Pratt, California Refrigerator Co.; Pete Askew, Refrigeration Supplies Distributor, Los Angeles; Jesse Rauch, California Refrigerator Co.; and H. W. Edwards, Refrigerating & Power Specialties Co. The West Coast group had a good-sized delegation at the First All-Industry Show, several of those pictured above being on hand.

Coast Jobbers Planning Industry Show Trip

SAN FRANCISCO—Plans for a delegation of West Coast refrigeration supply jobbers to leave about Jan. 10, 1940 to attend the Second Annual All-Industry Refrigeration & Air Conditioning Exhibition which opens Jan. 15 in Chicago, were made at the recent quarterly meeting of the Pacific Coast Refrigeration Jobbers Association.

In addition to discussing and making plans for the All-Industry Show, the Coast parts wholesalers visited the Gold Gate International Exposition and made plans for their activity at the Dairy Industry Exhibition to be held in San Francisco from Oct. 20 to Oct. 30. Committees were appointed to act as reception committees for the 10,000 visitors.

Officers of the Pacific Coast Refrigeration Jobbers Association are: Peter H. Askew, Los Angeles, president; R. L. Hinshaw, Sacramento, Calif., first vice president; Harold Stearns, Seattle, second vice president; Clarence F. Pratt, San Francisco, secretary; and B. E. Watters, San Francisco, treasurer.

Bimetal Concern Purchases Second Unit Conditioner

DETROIT — A second self-contained 2½-ton year around air-conditioning system has been recently installed in W. M. Chace Co., to aid in precision testing of thermostat metals, by Mechanical Heat & Cold, Inc., local Westinghouse dealer.

Commercial Refrigeration

New Salesman—Who Would Canvass—Compiles a Sales List That Sets Record For Variety of Jobs

NEW YORK CITY—That there is a place and an opportunity in the sale of commercial refrigeration for a man who is willing to learn, and who is not afraid of the cold canvass, has been soundly demonstrated by the record made this year by George Earle, salesman for the Majestic Refrigerator Corp., New York distributor for Servel commercial refrigeration equipment.

Samuel Lee, general sales manager of the Majestic Refrigerator Corp., who has trained hundreds of salesmen, says that Mr. Earle is the outstanding example of how a beginning salesman can find success by conscientious application to a planned program of sales education and training. Says Mr. Lee of his salesman:

"Week after week, after joining our firm, Mr. Earle came to the office promptly every morning, reported to the supervisor, went over the previous day's work, and laid out the present day's work.

"Mr. Earle attended our Saturday sales meetings religiously, and made every effort to secure information from every possible source.

"A considerable time went by without Mr. Earle doing any business to speak of, but this did not discourage him, for we had told him, and he knew, that with persistent effort, honest work, and with a thorough knowledge of the product he was selling, eventually he would have to get some business.

"This salesman, who attended our meetings regularly and was wide awake to what was being said, got the importance of our policy of diversification.

"It is our belief that in a canvass, which, by the way, we still regard as a very important part of a salesman's routine, the salesman should canvass each and every establishment, for in that way, a great many more people can be contacted in a given time.

"For instance, if a salesman canvasses butchers only, the loss of time would be great in going from one butcher to another. However, with our system of diversification, the salesman stops at the confectionery store to sell an ice cream cabinet, or similar equipment. He then covers the grocery next, where many different kinds of equipment may be desired, and then goes on to the next establishment which may be a tavern, and from there to a florist's, etc.

"Mr. Earle has demonstrated the practical application of this sales theory, for within a few weeks he sold the following commercial equipment to the following people. Note the diversification and note the volume of business sold in a comparatively short time, once this salesman had gained a thorough knowledge of his products, through attending the sales meetings and listening to the sales manager, and really acting upon his advice, and after he had digested all the sales bulletins and literature from the factory, and had become acquainted

with the complete line, so that he could talk to any type of prospect."

Jobs sold by Mr. Earle in the short period of time were:

A refrigerated storage box in the commissary of the Swanky-Franky, Inc., 153 Willis Ave., Mineola, Long Island, for use in the storage of frankfurters, syrups for cold drinks, and milk products. Swanky-Franky, Inc. merchandises grilled frankfurters and hot and cold drinks by means of fancifully decorated midget cars.

To the Viennese Bakery, Flushing, Long Island, Mr. Earle sold Servel refrigeration equipment, including a Foster bakery box, for the storage of cream products and dough retarding, storing Viennese pastry made up in special European style. The Viennese bakery came from Vienna where they had a large bakery and restaurant.

To Beebe's Biskit-Burger, a "super-restaurant" in Flushing, Long Island, the Majestic company salesman sold an electric refrigeration system. This outfit specializes in home-cooked biscuits and hamburgers, all cooked before the eyes of the public.

A system for the Colony Cafe in Queens, New York; refrigeration for 10 different applications in James Restaurant in Queens; a refrigerated box, case, and freezer to Michael Baranuk, butcher in West Islip, Long Island; equipment to refrigerate two boxes, two undercounter boxes, two salad pans, and one display case for Harry Slotkin of Queens; a beer cooling system, two walk-in boxes, one hardening cabinet, and one holding cabinet for Faggs, Nassau, N. Y.; two automatic frozen malted machines for the White Fortress, Huntington Station, Long Island.

New Orleans Commercial Dealer Moves Store

NEW ORLEANS—General Refrigeration Co., distributor of Hill commercial refrigeration equipment, has moved its offices and showrooms to 623 St. Charles Ave. M. P. McLane, formerly with Frigidaire, has been named sales manager of the firm, of which Henry T. Schmidt is president and C. V. Barkston vice president.

Jewett Gets Contracts From Government

BUFFALO—Contracts for installation of mortuary refrigeration facilities in several government hospitals and one penitentiary have been awarded to Jewett Refrigerator Co., Inc.

The hospital jobs, approved by the Veteran's Administration, Washington, D. C., will be placed in hospitals in Cleveland, Pittsburgh, and in Dallas and Amarillo, Tex. The prison installation is in Terre Haute, Ind.

JOBBER ITEMS DE LUXE



MANY OF THE MOST PROMINENT refrigeration supply houses in the country are recommending Texaco Capella Oils for trouble-free results. Texaco Capella Oils are dehydrated and do not react with refrigerants. Their use assures oil-free lines and properly working expansion valves.

Texaco Capella Oils are profitable items for jobbers to sell and unusually dependable oils for service engineers to use.

Experienced Lubrication Engineers, trained in the selection and application of Texaco

Refrigeration Lubricants, will be glad to demonstrate that savings can be made with Texaco Perfected Lubrication.

For prompt engineering service and deliveries, phone the nearest of our 2279 warehouses in the U. S., or write:

The Texas Company, 135 East 42nd Street, New York City, N. Y.

Texaco Dealers invite you to tune in The Texaco Star Theatre—a full hour of all-star entertainment—Every Wednesday Night—Columbia Network—9:00 E.S.T., 8:00 C.S.T., 7:00 M.S.T., 6:00 P.S.T.



TEXACO CAPELLA OILS



Have You Met the Ansul Twins' New Brother?

This is ICE-X, newest member of the happy Ansul Family. Like the Twins, ICE-X has a job to do, and he does it well. He eliminates ice at the expansion valve, and in capillary tubes.

He gives immediate relief from ice troubles, dissolves formed ice, will not corrode, leaves no residue, does not react with refrigerants or oil. Free of hazard, safe and easy to use. Fully machine-tested.

Ansul ICE-X is equally effective with methyl chloride, methylene chloride, all "Freon" refrigerants. May be used with acrolein methyl chloride. Contains no alcohol, alkali, acid, or other corrosives.

ANSUL ICE-X

ANSUL CHEMICAL COMPANY, MARINETTE, WIS.

ASK YOUR NEARBY ANSUL JOBBER ABOUT ANSUL ICE-X

Distributor-Dealer Doings

'Going To the Dogs' Is Beneficial For Ala. Salesmen

BIRMINGHAM, Ala.—Mecca of all employees of Alabama Power Co. is membership in the "sanctum sanctorum" of super-salesmen, known as the "Kennel Club."

Each year all the employees of the utility vie for this highest selling honor, which is awarded to the top sales producers of the H. O. O. H., the "Hustling Oligarchy of Order Hounds." Membership in each of its mystic degrees is determined by individual effort.

"Hound" says the foreword of the order's constitution, it defined as, "A dog of any of certain breeds used in the chase"; or "To pursue unrelentingly." This sales club was created "to pursue orders unrelentingly and with great gusto." Members are urged to "ponder profusely and persuasively pursue," "to be real hustling hounds."

Beginners in the sales club are designated as "Mournful Mutts," having sales of sufficient volume to place their names on the commission payroll. Members are then divided into three classifications, district and local managers, full-time salesmen, and all other eligibles. Each classification has a quota set before salesmen can enter the exclusive "kennel club." As they reach percentages of their quotas along the way, the men pass into degrees that carry such names as "Peddling Pup," "Rabid Retriever," "Forceful Foxhound," and many other species of canine selling stars.

Each year the winning "puppies" assemble in Birmingham to have the keepers of the kennel give "high honors and copious cookeys," and richly reward hustling hounds. The club's motto is "Well, I'll be dogged."

Philco Starts New Push On 10th Anniversary

PHILADELPHIA — Philco this month is launching a coordinated program of national and local advertising and promotion celebrating its "tenth straight year of leadership" in the radio field.

Full-page advertisements in national magazines, including Saturday Evening Post and Collier's, will run throughout September. Supplementing this will be a distributor's campaign in newspapers.

Anniversary radio models will be introduced in connection with the drive. Additional promotion material will include a full-color window display; display kits containing three varieties of window cards, window pennants, streamers, price cards, consumer folders, tabloid newspapers, etc.

Outdoor billboard poster also has been prepared for the campaign. Details of the drive were outlined at meetings recently in Philadelphia and Chicago, at which speakers were:

L. E. Gubb, president; S. M. Ramsdell, vice president; T. A. Kennally, general sales manager; E. B. Loveman, advertising manager; J. H. Carmine, assistant general sales manager; H. B. Brown, national merchandising manager; L. E. Hardy, manager of compact radio sales; and C. E. Carpenter, manager of tube, auto radio, and battery sales.

Wesco Holds Meeting For Midwest Dealers

LA CROSSE, Wis.—Westinghouse Electric Supply Co. was host to some forty dealers from communities in Wisconsin, Minnesota, and Iowa at a meeting and sales clinic Sept. 11 at the Hotel Linker here. Al Ryser and Robert Cummings of the Chicago office told dealers that the company's business for the first six months of 1939 was 49% ahead of the same period last year. Sales of electric ranges were reported to be particularly encouraging.

29 Public Service Corp. Refrigerator Salesmen Win Sales Honors

NEWARK, N. J.—Twenty-nine electric refrigerator salesmen of Public Service Corp. of New Jersey have earned awards in the Kelvinator Pioneer Club, top-flight retail sales group of the Kelvinator organization.

Awards are based on dollar volume of sales of Kelvinator products, and are divided into two classifications, the "Honor" award and the more coveted "Distinguished Service" award.

Three Public Service employees have qualified for the "Distinguished Service" citation. These men, and the divisions in which they work, are: Henry W. Slater, Perth Amboy; Charles Jelinek, Newark; and Alfred P. Person, Paterson.

In addition to these men, Public Service salesmen who have won the "Honor" award are:

John Strachen, Perth Amboy; H. S. Londa and S. B. Starkweather, Elizabeth; T. B. Geerin, Hoboken; J. J. Compton and H. J. Hodge, Rahway; J. B. Hughes, Elizabeth; W. B. Bradbury, Bound Brook-Somerville; Phillip Wolowitz and W. B. Schweigert, North Hudson; J. W. Francisco, Montclair; Samuel Cooper, Newark; J. F. Trucksess and V. F. Gallagher, North Hudson; D. J. Hussey, Bayonne; George Burchett, Newark; Stanley Wojick, Burlington; George Bitzer, Trenton; Louis Harrell, North Hudson; Alex Feivov, and John Terre, Passaic; J. W. Johnson, Paterson; and George Wild.

Nebraska Power Conducts 2-Month Cooking Program

OMAHA, Neb.—A two-months electric cookery exposition, to bring home the economy and efficiency of electric cooking to hundreds of local homemakers, will be conducted by Nebraska Power Co. during September and October, in cooperation with dealers, distributors, and Modern Kitchen Bureau.

At the utility's downtown electric shop, dramatized demonstrations of electric cooking will be unfolded during the 60 day's showing. Prospects contacted at the show will be turned over to dealers who participate in the campaign with electric range window and store displays and other range sales activity.

All standard makes of electric ranges will be displayed, and each week one make of range will be put through its paces by Nebraska Power salesmen, who will conduct several 15-minute range demonstrations daily. The salesmen will not only discuss the features of the ranges, but also will cook a variety of foods.

Attendance at the exposition will be stimulated by newspaper advertising, window displays, and the distribution of weekly door prizes. Dealers will be furnished with tie-in window and counter displays.

Ala. Appliance Sales Hit All-Time High In July

BIRMINGHAM, Ala.—July sales of electrical appliances by Alabama Power Co. and dealers hit an all-time record of \$562,000, a shade more than 25% of the entire volume of \$2,000,000 sold by dealers and the utility during the first seven months of the year.

With this pace continuing through August, appliance sales volume in Alabama Power territory this year is expected to total between three and one-half and four million dollars.

Chicago Utility Expands

CHICAGO—Special displays and demonstrations of various electrical appliances were staged by Commonwealth Edison Co.'s South Chicago store to celebrate its first week of operation in its new location at 9025 Commercial Ave.

The new quarters are modern and much larger than the old store.

Farnsworth Line Shown By One Distributor . . .

CHARLOTTE, N. C.—Showing of the new Farnsworth line of radios and phonograph combinations was held recently by Southern Bearing & Parts Co., distributor for North and South Carolina. The company also is Norge distributor in that area.

In charge of the showing were John Northey, president; George Fulenwider, general merchandising manager; and C. E. Beeson, secretary and treasurer of the company; and W. R. McAllister, Farnsworth district sales manager.

Individual dealer showings will be conducted throughout Southern Bearing & Part Co.'s territory, and some new dealers will be appointed.

. . . Added By Another

BOSTON — General Equipment Corp. has been named distributor of Farnsworth radio and television equipment in this territory. J. G. Waddell, president of the distributorship, and John S. Garceau and E. H. McCarthy, advertising manager and eastern sales manager, respectively, of Farnsworth, were speakers at a meeting at which the appointment was announced.

Duke Power Opens Office

HICKORY, N. C.—Local branch of Duke Power Co. has recently celebrated opening of its new office on Eleventh Ave. with an open house for customers and friends.

Who's Who—And Where

Harrison Hart Leaves Wico To Start Own Business

SPRINGFIELD, Mass.—Harrison L. Hart, sales manager of Wico Electric Co., has resigned to go into business for himself. The resignation is not effective immediately, but Mr. Hart will leave the Wico organization within the next few months.

Nature of the business which Mr. Hart intends to establish is not known, but it is said that it will not be competitive with the Wico firm.

Edward L. Stoughton is general manager of Wico Electric Co.

Gamble Advances Anderson

COLUMBUS, Wis.—Courtney Anderson, formerly associated with the Gamble Store in Beaver Dam, Wis., has been named manager of the firm's local store. Gamble Stores throughout Wisconsin staged a radio and appliance show on Sept. 8 and 9.

Nelson Buys Ritchie Hardware

ROYALTON, Wis.—Charles Nelson, formerly associated with Meiklejohn Hardware Co., Manawa, Wis., has purchased the Ritchie Hardware store here. The store's stock includes a line of ranges, washers, and electrical appliances.

One Firm Goes Out of Appliance Business . . .

HOUSTON, Tex.—Clyde L. Webb, general manager of the Farr-Webb Co., distributor here for Kelvinator commercial refrigeration, air conditioning, and automatic heating products and dealer for Coolaire attic fans and Bendix home laundry equipment, has announced the dissolving of the company.

Mr. Webb, who for eight years served as Kelvinator field representative in the Southwest, on the Atlantic Coast, and in other sections of the country, has not announced his plans for the future.

. . . And Two Come In

SPRINGFIELD, Mass.—Western Massachusetts Distributors, Inc., 214 Birnie Ave. here, has been organized to distribute RCA radios and phonographs. A line of electric refrigerators also will be handled. William V. Baldwin is president of the new firm, and Edward P. Cahill is treasurer.

ALTADENA, Calif.—Mr. Morrall has organized Morrall Appliances at 760 East Mariposa St. here to do a general household appliance business.

New Stoker Distributor

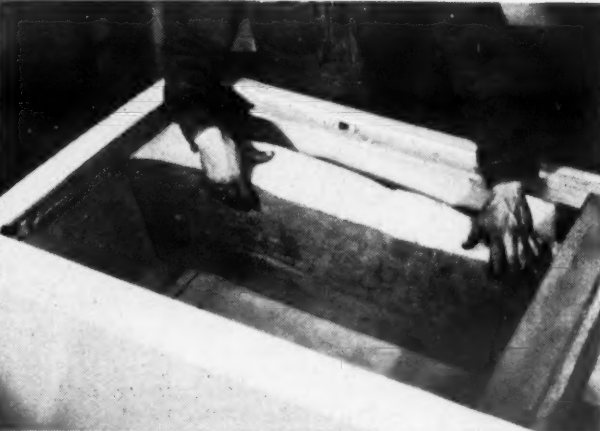
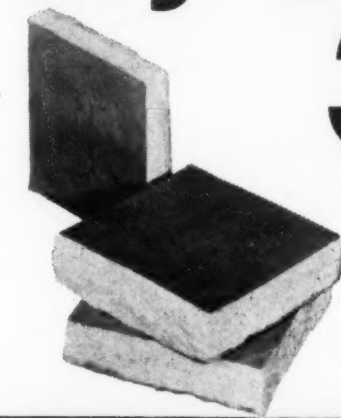
ATLANTA—The Walker Roofing Co. here has been appointed distributor for the Conco-Sampsel line of domestic and commercial coal stokers.

Try this insulation

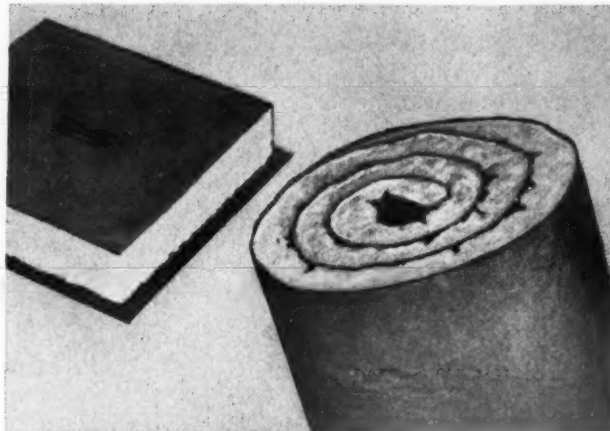
3

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- YOU SAVE ASSEMBLY TIME
- YOU CAN CUT IT ON THE JOB



Saves time: Bound-Batt is stiff enough to handle easily. It fits irregular contours because it is flexible. It stands up under fast assembly schedules.

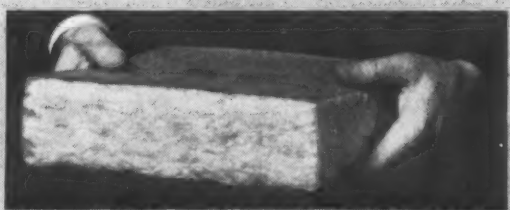


Less Cost: Bound-Batt offers you top efficiency insulation at less cost than ever before. It is furnished pre-fabricated, with sealing flange if desired, or in rolls.



Cuts on Job: On low production schedules, Bound-Batt can be cut as needed. This saves pre-fabrication expense, investment in large stocks, and often saves on material.

Get the Facts right now . .



Send Complete Information on Dry-Zero Bound-Batt.

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Company _____
Street _____
City, State _____

The most efficient commercial insulant known

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Bound-Batt
Insulation

Dry-Zero Corporation
Chicago: 222 North Bank Drive
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Export Business Opens Wide

IMMEDIATE effect of the war in Europe on the American refrigeration and export business has been a sudden influx of orders and queries from foreign importers. British and German manufacturers, which formerly were strong competitors of American refrigeration and air-conditioning exporters, have precipitately stopped shipping equipment.

Their attentions have now turned to the more pressing business of supplying war materials to their home governments.

South America Needs New Supply Sources

This situation has left a large number of accounts, particularly in South America, South Africa, and the Orient, high and dry. They have sold equipment which they now find themselves unable to supply. And they have a going business which they don't want to abandon.

Hence they are turning to their only remaining source of supply for this sort of manufactured articles—the United States of America.

English & German Manufacturers Now Out

In countries where American goods have already enjoyed free or relatively free entry, this new situation means that importing firms which formerly exercised franchises with English or German manufacturers will now be seeking franchises from American manufacturers not now represented in these countries.

Hence, here is an opportunity for manufacturers which do not have well-established and well-integrated foreign distribution to acquire some ready-made and ready-trained outlets, with a minimum of expensive negotiation.

Argentina, Australia Must Forget Restrictions

Other countries whose markets have been closed to American manufacturers will now be re-

opening. Prime examples are Argentina and Australia, both of which offer potentially high volume to American refrigeration and air-conditioning exporters, but which have blocked American products out of their ports through importing restrictions.

Argentina, with practically no production facilities of her own, and with an agricultural economy which will undoubtedly prosper and expand during periods of foreign warfare, seems the most interesting and likely market at present. Already, the NEWS learns, permits are being granted Argentine firms to import refrigeration equipment from the United States.

Previous Economic Conditions No Longer Apply

Because Argentina has been unable to sell her wheat, cotton, or beef to the United States (which has an enormous over-supply of these commodities), the Argentine government has been issuing import licenses only to importers of German and English refrigeration and air-conditioning equipment. Argentine wheat, wool, and beef finds a ready market in Germany and England, and particularly in England. Hence English manufactured goods got the call so long as they were available.

Australia, which has virtually prohibited imports of American refrigerators and unitary equipment for several years, has been striving to build her own refrigeration manufacturing industry behind protective tariff walls. What Australia couldn't manufacture, she usually purchased from England.

Temporary Advantages Can Be Made Permanent

But now, it is understood, some "temporary" permits have been granted Australian firms to buy from American manufacturers. As the European war progresses, undoubtedly the rich Australian market will come to depend more and more upon American suppliers.

This situation gives American exporters not only a temporary advantage in world markets, but a chance to establish themselves solidly in some territories into which they previously have not even been allowed to peek.

American Superiority Can Be Demonstrated

It is generally admitted around the world that American equipment is superior to that offered by foreign competitors. When given an opportunity to test this equipment in actual operation over a period of time, it is nearly always preferred by customers abroad. The big difficulty has been getting it through the customs officials in the first place.

Real Opportunity Presents Itself

Hence there is a real opportunity now not only to cash in on this sudden demand from abroad, but for establishing relations, setting precedents, and gaining reputations in many hitherto closed or restricted markets. It is a matter which deserves the immediate and close attention and thought of every organization which has anything which can be sold in foreign markets.

They'll Do It Every Time . . . By Jimmie Hatlo



LETTERS

Duke Power Likes the Dealers

Duke Power Co.
Charlotte, N. C.

Editor:

I had the pleasure of meeting you on Kelvinator's "Mystery Cruise" a few years ago, and have read your publication with the more interest since that time. All of our branch managers and commercial managers get it, and I often hear favorable comments regarding its interest and value to members of our organization.

Feeling as I naturally do about AIR CONDITIONING & REFRIGERATION NEWS, I was recently amazed and more distressed at a section of Mr. Robert Price's feature on page 8 in your June 7 edition, that section appearing under the sub title "Greensboro, N. C." (Because of a recent illness, I have been away from the office quite a bit during the past two or three months and this feature has just been brought to my attention.)

There has been no "knock-down" drag-out" battle between the Duke Power Co. and the so-called independent dealers at Greensboro, as was related by Mr. Price. An examination of the sales records of our company and of other refrigerator dealers during the past season at Greensboro would substantiate the fact that the Duke Power Co. does not "hog," nor attempt to "hog" the refrigerator or the appliance market in any community which we serve.

On the contrary, we devote approximately two-thirds of our newspaper advertising space, and at least nine-tenths of our radio time to purely promotional and educational endeavor without any reference to the particular make of refrigerator or other appliance which we sell, and without reference to terms or other features which we may be making on the appliance question.

I am sure that, with rare exceptions, this cooperation is appreciated by the dealers. Innumerable ones have told us that our advertising has been very helpful to them and have expressed appreciation of our cooperation.

Our proposition to the prospect on refrigerators is the same at all of our branches. It has never varied in the slightest degree to meet any competitive situation that might exist in any community. Our terms are limited to 24 months, whereas other dealers in many places extend terms of 30 months to 3 years. We make no allowances for an old ice box, whereas, many dealers make allowances of from a few dollars to practically all of the margin they may have on the refrigerators they are selling.

We do include in our prices a carrying charge—these carrying charges are represented by the difference between our term prices and our cash prices, which is 10% below the term prices. We do not have a trade-in proposition on any electric refrigerator except the one which we handle. This leaves the general replacement market entirely to the dealer.

Mr. Price appeared to think that the fact that our sales were larger

this year than last was evidence of some sort of cut-throat competition. If he had checked up he would have found that sales by dealers in general this year in this territory have been much larger than they were last year. The ratio of our sales to the total sales is probably less this year than last year, or at any time previous to last year.

Ten years ago our company was selling substantially more than one-half of the electric refrigerators being sold in this territory. There has been a constant increase in the number of good dealers, the number of good refrigerators on the market, and in the ratio of sales by other dealers to total sales. Five years ago the dealers were probably selling two refrigerators to our one. During the past year or so, they have been selling probably three to our one.

With 180,000 residential customers, we have approximately 50 trained salesmen. The aggregate number of salesmen working for appliance dealers in our territory is many times that number.

In the face of this sort of situation, you can readily see that any talk of our conducting a "knock-down, drag-out" battle and making the other dealers as a whole look around for a towel to throw in, as suggested by Mr. Price, is ridiculous.

Most of the appliance dealers in our territory appreciate fully the fact that but for the aggressive pioneering that has been done by our company, their sales volume would be nothing like what it is today. Most of them are always anxious for our Spring activity to begin because they immediately begin to get results from our intensive advertising during such a period.

All-in-all, let me repeat that the Duke Power Co. has no fight with dealers who are selling electrical appliances that go on our lines. On the contrary, we appreciate the job they are doing and offer them every cooperation dictated by common sense and sound business practice toward the end that they may do a constantly better job. And let me say that, with exceedingly rare exceptions, the dealers know and appreciate our attitude and value and appreciate our cooperation.

JOHN PAUL LUCAS,
Merchandising and
Advertising Mgr.

Extra Ice Storage In Refrigerators

Delta States Ice Association
Executive Offices 2627 Banks St.
New Orleans
Sept. 11, 1939

Publisher:

We are interested in the letter by R. G. Buckley in the Sept. 6, 1939, issue of your publication, entitled "Needed: An Ice Storage Box."

The need for mechanical refrigerator manufacturers to build an ice storage compartment in their units was called to the attention of your publication by L. L. Ferree, chairman of the research committee of the Delta States Ice Association in 1935.

At the same time correspondence was entered into with manufacturers of mechanicals in an endeavor to bring about the installation of such a compartment in all standard make units.

Mr. Buckley's letter serves to call

attention to the evident growth of the needs of 1935 to unusual proportions in 1939. In thousands of instances, mechanical refrigerator owners find it necessary to buy small ice refrigerators to keep an extra supply of ice.

Other thousands of mechanical owners deprive themselves of sufficient ice or place ice in a bucket or sink or devise some make-shift method of handling needed ice.

Your publication has on one or two occasions suggested a policy on which the ice manufacturers and mechanical refrigerator makers could cooperate rather than fight. This job of placing the proper ice compartment in mechanical refrigerators seems to be one where a mutual interest dictates cooperation.

WALTER F. COXE,
Secretary

Information Please

Air Conditioning & Refrigeration
Association (of Southern California)
443 South San Pedro St.
Los Angeles, Calif.

Sir:

I have at hand the bulletin of the proposed National Air Conditioning Association dated February, 1939.

The members of this Association have very little information on the organization you contemplate forming. We would therefore be grateful if you would enclose a list of the officers in your organization, and also a list of the Air Conditioning Associations and their addresses as published on the first page of the above mentioned bulletin.

Thanking you for your kind cooperation in this matter.

EDWARD C. FLYNN,
President

Answer: Five "Bulletins" have been published and distributed with the compliments of AIR CONDITIONING & REFRIGERATION NEWS to assist in the organization of the National Air Conditioning Association.

The membership of the Temporary National Council now consists of the following:

John H. Keller (chairman), Mechanical Heat & Cold, Inc., Detroit

Ben Natkin, Natkin & Co., Kansas City, Mo.

Alfred Epstein, Independent Refrigeration Co., Los Angeles, Calif.

C. E. Hansen, Smith & Oby Co., Cleveland, Ohio

Charles E. Tupper, Charles E. Tupper Co., Minneapolis, Minn.

J. N. Spreckelmeyer, General Air Conditioning Corp., Fort Worth, Tex.

A. J. Mitchell, Straus-Frank Co., Houston, Tex.

M. S. LeBar, York Ice Machinery Corp., Philadelphia, Pa.

Walter P. Davis, Buffalo, Niagara & Eastern Power Corp., Buffalo, N. Y.

Fred A. Hessick, Combustion Corp., Washington, D. C.

J. Ralph Smith, Combs Lumber Co., Lexington, Ky.

Jesse W. Page, Page-Williamson, Inc., Charlotte, N. C.

Carl Bimel, The Bimel Co., Cincinnati, Ohio

Norman H. Gay, Gay Engineering Co., Los Angeles, Calif.

Application forms for the enrollment of charter members are now being prepared and the permanent organization will be completed at a meeting to be held at the Hotel Stevens, Chicago, Jan. 16, 1940, in connection with the Second All-Industry Refrigeration & Air Conditioning Exhibition.

Kelvinator Wholesale Men 'Hit the Line' For Fall Sales Touchdowns . . .

DETROIT — Donning figurative football gear and preparing to "Hit the Line" hard in a nationwide sales contest based on the gridiron sport are wholesale men in Kelvinator distributorships all over the country. The new competition for wholesalers started on Monday, Sept. 11, and will end at midnight Saturday, Dec. 2.

For purposes of the contest, the country has been divided into five "football conferences," or leagues, and the grand first prize in each conference will be a Nash LaFayette six two-door sedan. Second major prize in each conference will be a total of 25,000 prize points redeemable in merchandise of \$175 retail value, and the third grand award in each conference will be a total of 15,000 points, redeemable in merchandise of approximately \$100 in retail value.

'PLUNGE' FOR SALES

Sale of each Kelvinator household electrical appliance—refrigerator, range, washer, or ironer—will count for a definite number of yards gained. For instance, an electric refrigerator sale, depending upon the size of the model, can bring a wholesaler a gain of from 4 to 15 yards; a washer, a gain of from 1 to 5 yards; an ironer, a gain of from 1 to 4 yards; or an electric range, a gain of from 5 to 7 yards. Each yard gained will count for 20 prize points—and a gain of 100 yards will count as a touchdown.

The three grand prizes in each conference will be awarded on a basis of a drawing held at the end of the contest. Each wholesaler who scores a touchdown (20 yards) will have a ticket for each touchdown placed in his "conference bucket." At the close of the contest, three tickets will be drawn

from each "bucket" for the total of 15 grand prizes.

At the end of the contest, an All-Conference Eleven will be selected from each conference. The team will consist of 11 men in each conference who gained the most ground. Prize points will be distributed among each eleven, on the basis of ground-gaining performance, and these points will entitle the winners to select merchandise from the official prize catalog. Winners of grand prizes in each conference will not be eligible for All-Conference prizes.

In addition to the grand prizes and All-Conference prizes, there will be distributorship and participation prizes and first quarter incentives.

High gainer in each distributorship will receive 3,000 prize points, provided he scores a minimum of at least one touchdown during the contest. Every wholesaler who enters the contest and reports on time each week throughout its duration will receive a participation award of 1,000 prize points, with which he can purchase merchandise awards at the end of the period.

'QUICK' SCORES HELP

To encourage "runbacks" of the "kick-off" for touchdowns, a special bonus of 50,000 prize points is being offered for quick touchdowns. Five hundred points will be given for each of the first 100 touchdowns scored in the first quarter.

Distributorships, for purposes of the contest, have been divided into the five conferences on the basis of their sales potentials. This method is believed to be more equitable than geographical groupings, because wholesaler men will compete against other wholesaler men who have similar territorial set-ups and potentials.

. . . Westinghouse Recruiting 'Minute Men' For Its 1940 Home Laundry Lines

MANSFIELD, Ohio—Westinghouse will back up its 1940 washer and ironer models with what L. L. Shawber, manager of the laundry equipment department, terms the most comprehensive promotional and retail sales training program it has ever had.

Emphasis for the retail training program will be placed on securing a 100% membership among laundry equipment salesmen for the "Minute Men," the company's national honorary sales organization. More than 1,800 men are now members of this group, which was organized in 1938.

Salesmen qualify for membership in the "Minute Men" by passing a training course which tests not only their knowledge of the product and its sales and advertising plans, but also their ability to use the washer and ironer for demonstrations.

"Minute Men" must know the

correct way to sort clothes in order to save time and effort; proper care of garments before laundering; the advantages of soaking; how to load and place clothes; and they must be able to actually complete a washing and ironing.

Members of the organization are given certificates testifying to their ability to wash and iron clothes, and each wears a "Minute Man" pin.

Meetings will be held in the field to initiate new classes of crack salesmen, at the time the 1940 laundry equipment line is introduced, Mr. Shawber said. Sales and advertising plans also will be outlined at these meetings. The sales training schools will continue throughout the year. Plans for the schools have been given all district offices and distributors, with the idea of making every retail salesman a "Minute Man" member.

Cleveland Dealers Put Emphasis on Users' Testimonials In Cooperative Range Drive

CLEVELAND—First local use of testimonials by homemakers now using electric ranges was made in newspaper advertisements during a recent range promotional campaign sponsored by the Electrical League of Cleveland and cooperating dealers. The economy of electric cookery was the theme uniting the newspaper series.

Also featured in advertisements was an electric range essay contest conducted by the Cleveland Plain Dealer, with four ranges as top prizes and individual gift awards for all contest entrants. Contest

was designed specifically to develop active prospects and increase floor traffic.

Range owner-testimonial booklet, just completed by the Cleveland Electric Illuminating Co., was made available to all cooperating dealers. Other regular League activities, including the kitchen teas, demonstration cooking schools, etc., were tied in with the range drive.

To add sales zest, a bonus fund of \$2,000 was set up for salesmen, with every sale made during the drive cutting the salesman in for a definite share of the cash.

Frigidaire Combines a Range-Kitchen Heater

DAYTON, Ohio—To meet the needs of persons living in small communities or on farms, Frigidaire has added to its line of cooking appliances two models of combination electric ranges and kitchen heaters. Production on the new units began Sept. 14.

One of the combined electric range and kitchen heater units, known as model BC-5, is designed for use with wood, soft coal, and other hard fuels. The second unit, model BC-6, will burn only anthracite coal. Water backs and water coils are available for both models.

Suggested zone 2 retail selling price on each model is \$188.50.

Demand for combination ranges of this type has developed rapidly since the establishment of rural electrification projects, both private and government-operated, says Joseph Rushton, Frigidaire range sales manager. The new units, in addition to electric cookery, also provide facilities for room and water heating.

Among construction features of the new models are a one-piece cooking top and all-porcelain cabinet. The oven, 16 inches wide, 17 inches high, and 19 inches deep, with a twin unit of 4,700 watts capacity, is identical in size with that of the standard Frigidaire electric range oven. Twin heating unit consists of a bottom unit of 2,000 watts and a

top unit of 2,700 watts. All hardware and other appointments are similar to those used on other Frigidaire ranges.

Surface cooking equipment includes one 8-inch 2,000 watt unit, one 8-inch 1,200 watt unit, and two 6-inch 1,200 watt units, each having the five cooking speeds which are a feature of other Frigidaire ranges.

Both of the new models are 38 inches wide, 36 inches high, and 32 inches deep, including flue collar and hardware.

Dalzell Gets Post With Revere Branch

BALTIMORE—R. Carson Dalzell has been made technical advisor to the Baltimore branch of Revere Copper & Brass, Inc. Mr. Dalzell has been a member of the Revere organization since 1937.

After winding up his academic career with a Bachelor's degree in electrical engineering from Johns Hopkins University and both a Master's and Doctor's degree from the graduate engineering school of Harvard University, Mr. Dalzell in 1929 entered the central research laboratory of American Smelting & Refining Co. at Perth Amboy, N. J.

In 1931 he resigned his position with this company and was engaged by G. H. Clamer of Ajax Metal Co., Philadelphia. From 1933 until the time he became associated with Revere, he was employed by American Oil Co. here.

Apex Makes Shifts In Plant Properties

CLEVELAND—Completion of a building adjustment program begun by Apex Electrical Mfg. Co. in 1932 was brought about recently with sale of the company's Plant No. 1, located at 1067 E. 152nd St. here, to Murray Ohio Mfg. Co., whose property adjoins the plant.

This property, acquired by the Apex organization in 1918, consists of 2½ acres of land and about 75,000 sq. ft. of buildings. Sale price was not disclosed. The deal was handled by C. G. Frantz and C. W. Hannon, presidents of the Apex and Murray firms, respectively.

Finding its operations hampered by the limited facilities of its original plant, Apex in 1932 purchased the 8-acre Jordan Motor Car Co. plant which lay just across the street. In 1937 the Holland-Rieger Corp.'s washer business and its plant properties at Sandusky, Ohio were taken over by Apex Co. Last year, Apex's Oakland, Calif. plant was disposed of and its operations moved to the main plant here.


The program of consolidation and improvement of the main Apex plant has included installation of continuous assembly lines, new equipment, and improved production methods. Disposition of the original plant will permit further consolidation of equipment and doubtless will result in increased production economy, according to Mr. Frantz.

Constructive VERSUS DESTRUCTIVE Selling

We require our entire sales organization
to maintain a policy of constructive selling.
Pointing out the weakness of a competing
product or service creates the impression
of being on the defensive—of trying to
cover up something. Poor psychology
and destructive to the industry, as well.

UNIVERSAL
DETROIT, MICHIGAN

COOLER CORP.
BRANTFORD, ONTARIO



The policies expressed in the above advertisement published seven years ago are in no small measure responsible for the progress of this company. These same policies are being followed today.



✓ Around the Corner from Anywhere

Artic

The Preferred METHYL CHLORIDE for Service Work

Prompt Shipments from Convenient Stock Points

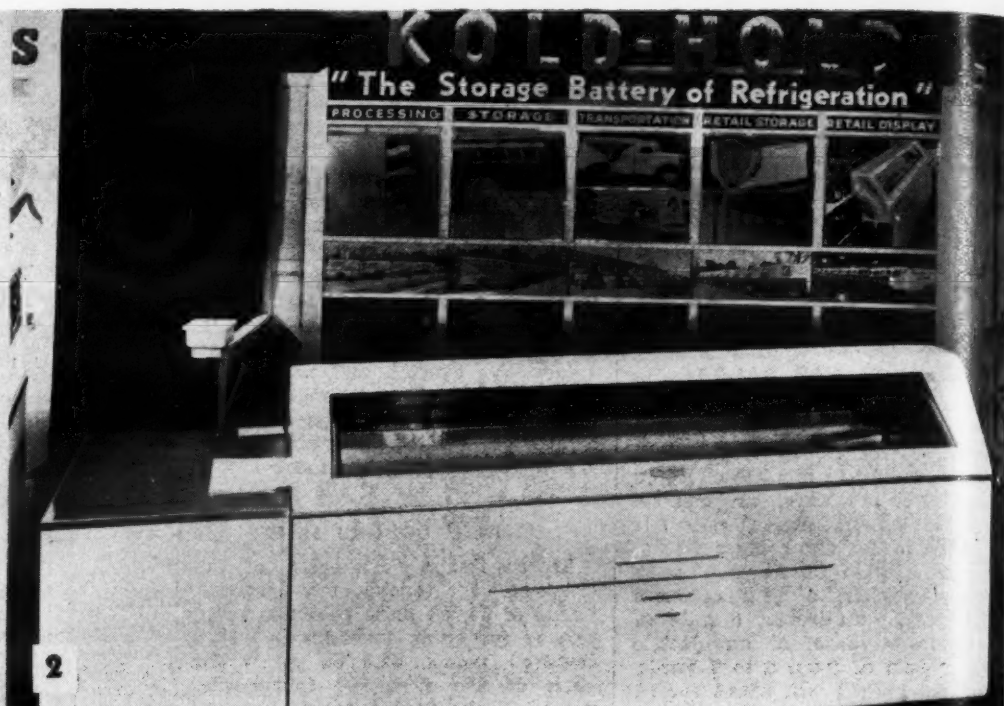


E. I. DU PONT DE NEMOURS & COMPANY (INC.) • The R. & H. Chemicals Department • Wilmington, Delaware

District Offices: Baltimore, Boston, Charlotte, Chicago, Cleveland, Kansas City, Newark, New York, Philadelphia, Pittsburgh, San Francisco

Better Equipment Becoming Available To Help the Advance of Quick-Frozen Foods

Food Distributors Association Members at Chicago Convention See New Types of Refrigerated Cases, Household Refrigerators, Small Delivery Trucks and Other Devices and Equipment Aimed at Broadening the Market Possibilities For Quick-Frozen Foods



Progress in the merchandising of quick-frozen foods through the development of new refrigerated display and storage equipment was evidenced by the exhibits at the National Food Distributors Association convention in Chicago.

(1) A full line of frozen foods displayed by Walker's Fulton Fish Co., Inc. Cabinet on right is one of the new Bastian-Blessing series.

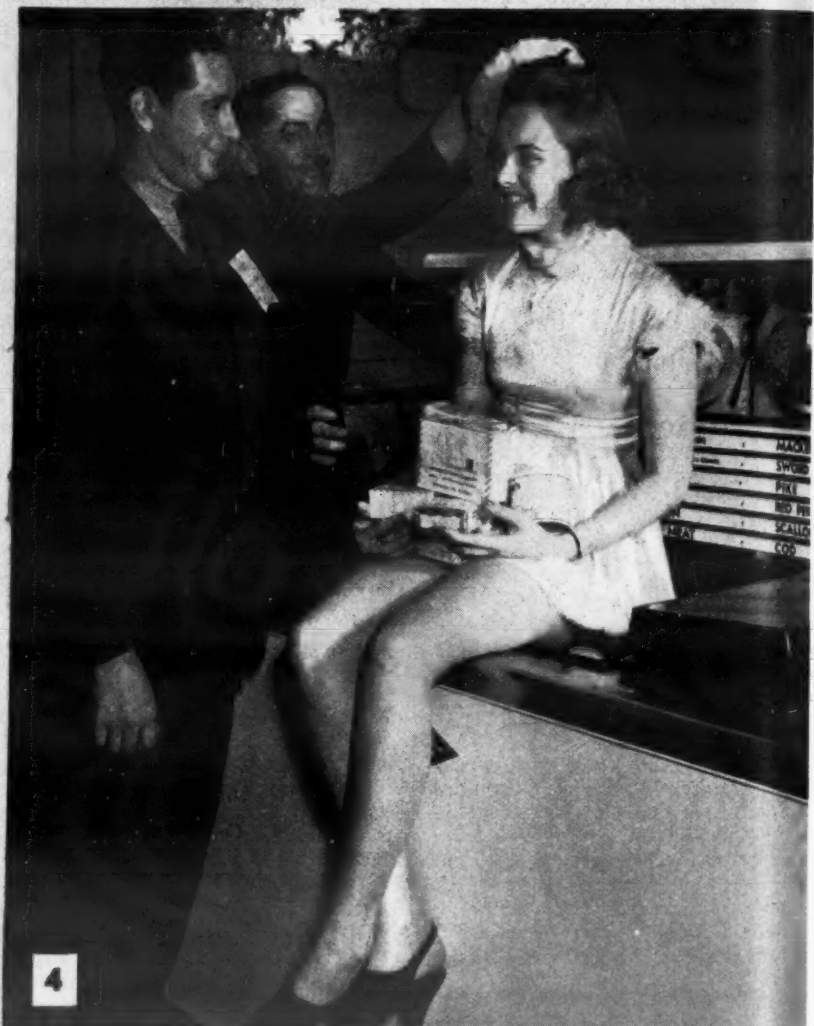
(2) Low-temperature frosted foods cabinet with full display section, by Kold-Hold Mfg. Co.

(3) C. G. Carter, vice president and general sales manager of Liquid Carbonic Corp., who introduced a line of cabinets for frozen foods retailing at the convention after "a survey disclosed that frosted foods are no longer regarded as a novelty or luxury. . . ."

(4) Doris Larson makes a throne of one of Liquid Carbonic's new "Red Diamond" frozen foods cabinets to reign as "Miss Frosted Foods" at the convention.

(5) On exhibition for the first time was the new Crosley bantam delivery truck. In the group of men around the truck are (fourth from left) I. W. Veeck, Stewart-Warner Corp.; (fourth from right) L. Lucas, Bastian-Blessing Co.; and (second from right) O. D. Greenlee of Walker's Fulton Fish Co., formerly with Kold-Hold.

(6) Miss Frances Weedman, home economist for Stewart-Warner Corp., demonstrates the Stewart-Warner "dual-temp" refrigerator with a special frosted foods compartment.



Frosted Foods Service For Small Towns Opened By New Dry-Ice Containers

(Concluded from Page 1, Column 2)

consumer through no fault of the distributor or packer, but simply because of poor transportation facilities. One such package hurts the reputation of all quick-frozen foods, as most housewives are inclined to think of them as being all the same.

Importance of the new containers in opening up the small-town market for frosted foods was emphasized by two speakers at the conference: Charles W. Triggs, quick-frozen fish and transportation consultant, and Major Elihu Church, president of Church Freight Service, Inc.

85% IN CITIES

Both men pointed out that approximately 85% of the present-day sale of consumer packaged frosted foods is limited to large metropolitan cities, whereas more than half the population of the United States is made up of cities of 10,000 persons or less.

"In the keeping of merchandise in storage plants, the transportation thereof, and the handling in the retail store—it is transportation that has proven to be the weak spot," Mr. Triggs said.

"Whenever frosted foods are not delivered in a good condition, the quality is permanently impaired. The consignee may think that by placing a slacked shipment in his low-temperature dispensing case no damage has been done, but such is not the case. The keeping quality of the frozen commodity has been impaired, with the result that even the manufacturer of a good dispensing case may be blamed for an inferior article sold from his case. A re-frosted quick-frozen article is not as good as a slow frozen article.

MILD WEATHER DANGER

"One would think that the greatest damage to frosted foods occurs in hot weather—but this is often not the case. Because hot weather is to be expected in summer, shipments are prepared for it. But during the cool fall weather, the hot days of Indian summer may come unexpectedly, and shipments of frozen foods may not be safeguarded due to a let-down of the proper refrigerating facilities and attention to details."

He said that equipment for handling frosted foods at retail is far in advance of some of the other phases of the frosted food industry, because equipment manufacturers have been serving the ice cream business for years, and understand many problems that confront them in the proper storage of foods requiring a zero temperature.

Terminology development of the small shipment container "a remedy for this great transportation weakness," Mr. Triggs declared this would open up the small-town market, which, he said, is "sadly in need of adequate refrigerated service."

Discussing the requirements for the proper distribution of frosted foods, Mr. Church said:

"A few years ago, a temperature of 20° above zero was considered sufficient protection for goods in transit. Now it is realized frozen foods must be kept below zero all the time. They require not only a low temperature, but a constant temperature. You must not freeze

and store your product at 10° below zero, and then ship it at 10° above.

"Inadequate public cold storage facilities hold back the industry and limit the places where frozen foods can be kept. Comparatively only a small proportion of the 130 million people in the country live near them. All others—your great number of potential purchasers—must be supplied in some other way.

"The industry needs additional retail outlets. The small town market is your big market—the one you must arrange to supply if you are going to increase your sales."

EXPRESS CO. SHIPS 'EM

American Railway Express has inaugurated a container service to handle small shipments of frosted foods, Mr. Church said. The container, insulated and refrigerated with dry ice, holds about 10 cu. ft. of frosted foods at sub-zero temperature for about five days. This service covers all of the company's 23,000 small-town stations.

Regular charges are made on the net contents of the shipment, but no charge is made on the weight of the container itself or on the dry ice used as refrigerant. Service charge for use of the equipment, pick-up, and delivery amounts to about \$3 for the average shipment.

If the shipper or consignee wants to keep the container longer than the 24 hours "free time" for use as a temporary icebox, he can do so on payment of a small demurrage charge.

Three different types of L.C.L. containers were on exhibition at the N.F.D.A. convention. They were products of Church Container Corp., the Zimmerman Portable Container Co., and the Meese Co., Inc., the latter being smaller in size than the first two.

PRODUCT CONTROL NEEDED

Other speakers at the frosted foods session charged that "education of the housewife on the use of quick-frozen food has been neglected, and education of the retailer has thus far been extremely sketchy."

Blame for this situation was placed largely on packers who have not only ignored the retailer, but the consumer as well, in developing a market for their product. This is probably because they have been concentrating on selling brokers, it was said.

Edward W. Rosenheim, president of United Frosted Foods, Inc., Chicago, said, "too much emphasis could not be put on quality control and if the national brand owner could not maintain control of his product he had better not go into the business."

Miss Frances Weedman, home economist for the Stewart-Warner Corp., spoke on the subject "The Housewife and Frosted Foods." She reiterated remarks of other speakers in connection with the maintenance of quality and said she believed that within a year most of the major household refrigerator manufacturers would be producing a box which would be capable of stocking sufficient frosted food in the proper manner for a week's supply in the home.

Exhibited at the Chicago conven-

tion for the first time were the new frosted food display cabinets shown by the Liquid Carbonic Corp. of Chicago, and the Stewart-Warner dual-temperature household refrigerator, which has a sub-zero frosted food compartment large enough to hold a week's supply of frosted food.

The Charles Q. Sherman Corp., Bastian-Blessing Co., and C. V. Hill & Co. had new models of their retail store frosted food display cases on view in the section of exhibits devoted exclusively to frosted foods. Among other new exhibitors in this section were Rex Refrigerator Co., Kept-Kold Frozen Foods Co., Harold L. Schaefer Co., Permellux Co., Church Container Corp., and Kold-Hold Mfg. Co.

One of the most unusual exhibits was that of the Crosley Corp., maker of the new bantam car, who exhibited several models—one of which was shown for the first time at any public exhibition. This model is the smallest delivery truck in the world, said to be capable of producing 60 miles to the gallon of gasoline. The innovation of this tiny truck is designed to facilitate economical, quick delivery service of small rush telephone orders of groceries.

Moves Across The Street

HENDERSON, N. C. — E. W. Woolard of Woolard's is opening an electrical appliance store across the street from his present location next to Carolina Power & Light Co.'s office. Mr. Vick, who has been associated with Mr. Woolard for a number of years, is to be manager of the new store, which will continue to handle the complete Hotpoint line.

Refrigeration and Appliance Firm Engineers Dominate Porcelain Institute Program

COLUMBUS, Ohio—Several persons associated with companies in the refrigeration and appliance industry will be speakers at the fourth annual Porcelain Enamel Institute Forum, to be held at Ohio State University here Oct. 18 to 20.

Opening session on Oct. 18 will include a symposium on fine ground enamels led by E. C. Aydelott of Benjamin Electric Mfg. Co., with the assistance of E. W. Dietterle, American Stove Co.; C. T. Gordon, Porcelain Metals Corp.; T. Hartshorn, A. J. Lindemann & Hoverson Co.; J. B. Simons, Westinghouse; Norman Stolte, Enamel Products

Co.; G. E. Terry, Hotpoint; and George N. Tuttle, Frigidaire.

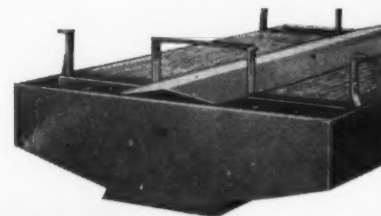
"Drawing compounds" will be discussed at a session Oct. 19 by G. W. Dykstra, of Kelvinator, while R. F. Bisbee of Westinghouse will speak on "Inspection, Checking, and Field Problems of Porcelain Enameled Products" at the final session of the forum on Oct. 20.

A proposed tentative standard test for impact resistance will be outlined by W. N. Harrison, National Bureau of Standards, and Paul L. Smith, Porcelain Enamel Institute, at the morning session on Oct. 20, last day of the forum.

The HUMIDITY STAYS HIGH

and the air keeps circulating

Rempe Autodraft keeps the humidity high in a walk-in cooler. There's plenty of humidity to keep foods from drying out and losing weight. But it doesn't gather to drop in a "rain-fall" every time you enter the cooler. Correct constant air circulation is responsible for that. Get all the facts. Write for complete free information.



**REMPE
AUTODRAFT
UNIT COOLER**

REMPE COMPANY
340 N. Sacramento Blvd.
CHICAGO

Announcing a NEW... LOW SIDE REFRIGERATION PRESSURE CONTROL

with
● SCALE
SELECTOR



with
● RANGE
SELECTOR

● USER CONVENIENCE

● SCALE SELECTOR

Two external arms independently adjustable so that any portion, or the full scale of the control can be used—readily adjustable by apparatus

manufacturer, installer or service man, but tamper proof by user.

● RANGE SELECTOR

A single external lever to set the opening point of the control within the range provided by the "scale selector"—also readily adjustable by ap-

paratus manufacturer, installer or service man, but tamper proof by user.

● USER CONVENIENCE

Enables the manufacturer or installer to provide for the user, the proper proportion of the scale within the range of which any desired pressure

may be selected by the user whenever load demand, weather conditions or other factors make it desirable.

WHITE-RODGERS ELECTRIC CO.
1211 CASS AVENUE, ST. LOUIS, MO.
CONTROLS FOR REFRIGERATION • HEATING • AIR CONDITIONING



MUELLER BRASS CO. IMPROVED TOOL KIT

Here is a compact Tool Kit that enables the service man to operate any style Purging Valve on hermetically sealed units when charging or testing.

The Kit contains a complete assortment of Adapters, Wrenches and Adapter Valve neatly boxed as shown.

Order through your jobber.



MUELLER BRASS CO.
PORT HURON, MICHIGAN

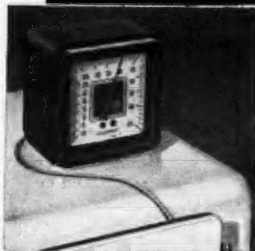
Sell PACKAGED AIR CONDITIONING



DEALERS: Get the facts about the GR-Lipman line of complete, "packaged" Air Conditioning Equipment . . . portable, self-contained units for year-round air filtration and ventilation; summer cooling and dehumidification. An unlimited market; an outstanding line. Write:

GENERAL REFRIGERATION CORPORATION
Dept. AC-2 Beloit, Wis., U. S. A.

Surely you won't try to go through another season without



the MARSH "Serviceman"

• The Marsh "Serviceman" was built to do what the pocket thermometer can't do—and it has made good in a big way. The remote reading feature enables you to make tests under actual working conditions—with the refrigerator door closed, for instance, as illustrated opposite.

When not in use the bulb and capillary tubing are neatly concealed in the case. Note the heavy rubber buffer, which prevents damage and protects the instrument.

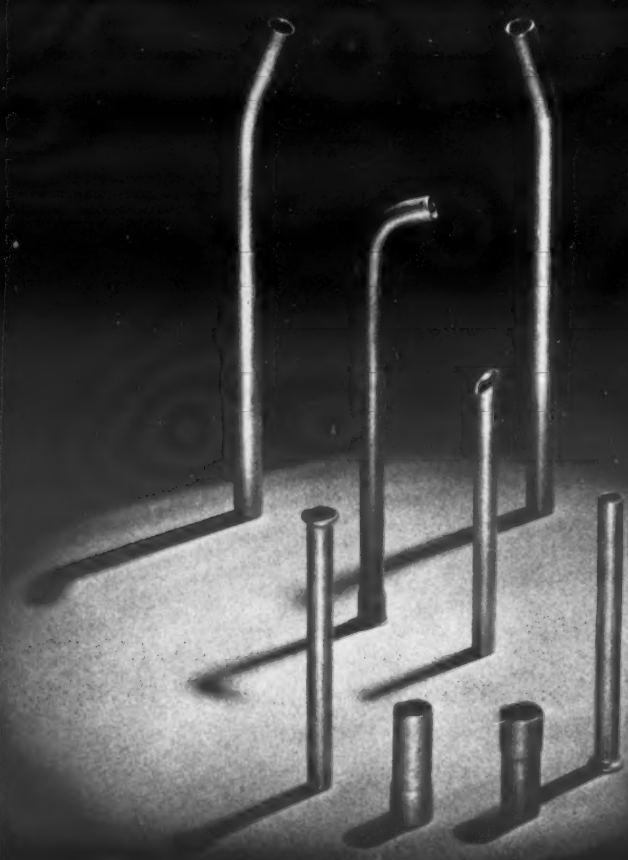
Use the Serviceman for answering all complaints of too high or too low temperature—testing switch action—checking brine tanks and vessels—in fact, all household or commercial servicing.

Modern facilities and volume production make it possible to sell this precision instrument (in ranges of -10° to $+65^{\circ}$ F. or -10° to $+100^{\circ}$ F.) at a dealers net price of only \$5.00 F. O. B. Chicago. (Minus 20% temperature range at slightly higher price).

Jas. P. Marsh Corporation, 2067 Southport Ave., Chicago

MARSH Refrigeration Instruments
GAUGES—THERMOMETERS—RECORDERS—MERCURY SWITCHES

BUNDY TUBING



Steel tubing, copper coated inside and out

BUNDY TUBING CO.
DETROIT

Comfort Wrapped In Cellophane



Visitors at the Memphis Electric Show could observe the cool, clean interior of the W. F. Slater Engineering Corp. booth through walls of transparent cellophane. Temperatures in the airtight enclosure were maintained at the proper level by conditioning equipment in actual operation.

Survey Shows York Leads Advertising Budgets

(Concluded from Page 1, Column 1)

both half-years was by York, with \$44,375 in 1939, compared with \$69,707 in 1938. Carrier was second with \$31,625 in 1939, against \$40,325 last year. Frigidaire spent \$29,725 for advertising industrial air-conditioning equipment in the 1938 period, exclusive of expenditures for Delco home heating equipment, as compared with \$15,095 spent in the first half of this year for the same equipment.

General Electric increased its air-conditioning advertising slightly, from \$12,183 in the first half of 1938 to \$12,462.50 in 1939. Westinghouse also increased its expenditure from \$7,000 last year to \$8,750 in the same period of this year.

Frick spent \$4,520 in the first half of 1939, compared with \$6,975 for last year. Sturtevant was down from \$3,700 last year to \$2,075 this year. Ilg had the greatest reduction, the report showing expenditures of \$8,958 last year as compared with \$1,625 this year.

Newcomers to the popular magazine field this year were Philco, with an expenditure of \$14,395 on the Cool-Wave unit, and Trane, with an appropriation of \$3,500 in Time magazine.

Other concerns included in the 1939 report were American Radiator Co., which spent \$3,029.59; Burnham Boiler Corp.—\$712.50; Clarage Fan Co.—\$5,490; Fitzgibbons Boiler Co.—\$350; Holland Furnace Co.—\$1,750; and Mueller Furnace Co.—\$20,100.

Advertising Expenditures On Air Conditioning

American Radiator

American Radiator Co.
Heating and Air Conditioning
Life \$ 1,525.00
Time 1,094.94
News Week 409.65
Total \$ 3,029.59

Burnham

Burnham Boiler Corp.
Air Conditioning and Heating System
House Beautiful \$ 362.50
House & Garden 350.00
Total \$ 712.50

Carrier

Carrier Corp.
Air Conditioning
Time \$12,855.00
Business Week 4,190.00
Saturday Evening Post 2,000.00
Room Air Conditioners
Time 5,835.00
Saturday Evening Post 4,000.00
Business Week 1,830.00
Self-Contained Air Conditioning
Business Week 915.00
Total \$31,625.00

Clarage

Clarage Fan Co.
Air Conditioning
Business Week \$ 5,490.00
Total \$ 5,490.00

Fitzgibbons

Fitzgibbons Boiler Co., Inc.
Air Conditioning
House & Garden \$ 350.00
Total \$ 350.00

Frick

Frick Co.
Unit Air Conditioner
Time \$ 1,770.00
Nation's Business 495.00
Business Week 350.00
Air Conditioning
Time 885.00
Business Week 525.00
Nation's Business 495.00
Total \$ 4,520.00

Frigidaire

Frigidaire Div. General Motors Sales Corp.
Air Conditioners
Time \$ 7,905.00
Business Week 3,920.00
News Week 3,270.00
Total \$15,095.00

General Electric

General Electric Co.
Air Conditioning
Time \$ 9,662.50
Fortune 2,800.00
Total \$12,462.50

Holland

Holland Furnace Co.
Furnace Air Conditioner
Time \$ 1,750.00
Total \$ 1,750.00

Ilg

Ilg Electric Ventilating Co.
Electric Kitchen Ventilator
Time \$ 910.00
Attic System
News Week 715.00
Total \$ 1,625.00

Mueller

L. F. Mueller Furnace Co.
Heating and Air Conditioning
Better Homes & Gardens \$11,700.00
The American Home 8,400.00
Total \$20,100.00

Philco

Philco Radio & Television Corp.
Cool-Wave Air Conditioner
Saturday Evening Post \$12,000.00
Time 1,750.00
Business Week 645.00
Total \$14,395.00

Sturtevant

B. F. Sturtevant Co.
Air Conditioning
News Week \$ 1,490.00
Business Week 645.00
Total \$ 2,075.00

Trane

The Trane Co.
Air Conditioning
Time \$ 3,500.00
Total \$ 3,500.00

Westinghouse

Westinghouse Electric & Mfg. Co.
Unit Air Conditioner
Time \$ 8,750.00
Total \$ 8,750.00

York

York Ice Machinery Corp.
Air Conditioning
Saturday Evening Post \$32,000.00
Time 7,425.00
Yorkaire Conditioners
Time \$ 4,950.00
Total \$44,375.00

Novel Display Used By Memphis Distributor

MEMPHIS, Tenn.—A cellophane-enclosed room that gave all the advantages of 100% visibility yet provided a four walled, air tight enclosure for demonstration purposes solved the problem of the W. F. Slater Engineering Corp., Carrier distributor, for exhibiting air conditioning at the annual Memphis Electric Show.

The Carrier exhibit was enclosed in three walls of cellophane to give the effect of an actual room in a home. Visitors expressed surprise at the decidedly lower temperature in the space—separated from the rest of the exhibits only by the transparent barrier.

Trane Projection Heaters Built With Anemostats

LA CROSSE, Wis.—Extension of unit heating into new fields is claimed to have been made possible with the announcement that the Trane projection unit heater is now available with an Anemostat.

Fourteen months of experimentation have resulted in the adaptation of the Anemostat, originally designed for duct applications, to the Trane four-blade propeller fan incorporated in projection unit heaters. The vertical air stream projected straight downward by the heaters is said to be ideal for Anemostat distribution.

The Anemostat, used on the Trane heater, diffuses the warm air in a series of semi-horizontal planes, making it possible for people to sit directly under the heater, even on low ceiling installations.

It is felt that the new unit is applicable to industrial plants and textile mills, where low velocity air currents, which are dustless, are essential to certain manufacturing processes.

N. J. Downey, manager of the Trane unit heater department believes that the new heater, using the Anemostat, will enable the use of fewer units on many of the larger jobs.

Java To Get More Air Conditioning—Needs It

SURABAYA, Java—An air-conditioned, ultra-modern office building will be erected soon in the business section of Surabaya, according to press reports.

Air conditioning also is planned for Au Chat Noir, a night club in Batavia, it is reported, and one of the largest theaters in that city also is said to be contemplating an air-conditioning system.

About 500 air-conditioning units—most of them serving one or two rooms—are now in operation in the Netherlands Indies, it is reported.

Commercial Service

Carbonator Maintenance

By Arch Black and Dean C. Seitz

Flushing Out the Carbonator

The following operations should be followed in the proper sequence in flushing out a carbonator.

1. Shut off the CO₂ gas at the drum, also the city water and the electricity.

2. Empty the carbonator as much as possible, by drawing the water out through the draught arm of the soda fountain. By turning the gas on for approximately one minute, the remainder of the water may be discharged. Shut the gas off again.

3. Mix thoroughly a solution of bicarbonate of soda (baking soda) and warm water; 3 lbs. of soda and enough water to fill the carbonator. Most carbonators hold from four to

five gals. of water in the storage tank.

4. Disconnect the water inlet line where it is connected to the pump and by using a funnel, pump the machine full of solution by turning the carbonator over by hand. Open the vent at the top of the water gauge glass in order to get the machine full. Allow the solution to remain in the tank over night, if possible.

5. To empty, open the gas drum and allow gas pressure to force the solution out through the soda fountain draught arm.

6. Reconnect the water line, start the pump and force plain water out of the draught arm. A very thorough rinsing of the machinery is necessary, probably 4 or 5 rinsings with clean water. Then start the carbonator in the usual manner and continue.

Care of the Carbonator

CLEANING

Advise the customer to keep his machine free from dirt and dust. One or two times a year clean the electric contact of the automatic switch with a very fine emery cloth or sandpaper.

OILING

Fill the oil cup with medium machine oil about once every two months. Fill the oil wells on the motor with sewing machine oil once every two months. About once in two months place a few drops of oil on the pump plunger guide and the pivot screw for the balancing lever. Never put oil or grease on the pump plunger as it is likely to be forced into the body of the carbonator, affecting the taste of the soda water.

CARE AGAINST FREEZING

If the carbonator is used during the winter, protect it carefully from freezing. If the carbonator is not used during the winter, shut off the water and gas supply, drain off all the water carefully, and open the automatic knife switch.

SAFETY VALVE

Never tamper with the safety valve. It is set to open at approximately 250 lbs. If it leaks or does not operate correctly, it may be returned to the manufacturer for replacement with a new one.

THE PUMP

Always make certain that the pump has an ample water supply. If the pump runs dry, the packing will be ruined. If the pump runs at only a partial water supply, air will be drawn into the carbonator and the soda water will be spoiled. At the same time, a rumbling noise in the pipes will be noticed.

Never pull up the stuffing box nuts of the pump so tight that they bind. If water or gas leaks out of the stuffing box, pull up the nuts gently, being careful not to bind them.

The CO₂ Gas Regulator

When changing drums of CO₂ gas, do not drop the regulator on the floor or put it in a dirty place. If dirt gets into the gas regulator, it will not work. Careless handling of the regulator is also liable to crack the hose connection or loosen the coupling to the gas inlet valve. To change gas drum open the connection at the cylinder valve coupling. Clean the outlet of the valve on the new tank, making certain that there

is a washer in the coupling, and then pull up the connection tightly. It is seldom necessary to adjust the gas regulator adjusting screw (No. 43-1 of Fig. 3, Sept. 13 issue).

Never oil the gas regulator and gauge. Oil interferes with the operation of the delicate parts and may get into the soda water with objectionable results. Frequently, the cause of an extensive CO₂ gas leak is attributable to a defective diaphragm in the gas regulator. Gas regulator leaks are due to improper handling of the regulator. It is imperative that the thumb screw be turned counter clockwise as far as it will go in installing a gas cylinder, otherwise the full pressure of the new cylinder may damage the diaphragm in the regulator.

TESTING THE GAS REGULATOR

To determine whether a gas leak occurs at the regulator, test it as follows. Uncouple the hose connection leading from the gas regulator to the carbonator. Turn the adjusting screw backwards (counter-clockwise) until there is no tension on the spring, then close the gas regulator shut-off valve tightly. The needle on the gauge should read zero. If it reads more than 15 lbs., the regulator should be sent to the manufacturer for repairs. If it reads less than 15 lbs., it is satisfactory for use.

Carbonic Gas Leakage

Carbonic gas leaks in the form of either soda water or CO₂ gas form one of the largest single items of avoidable losses in connection with the operation of a soda fountain. As these leaks are very easy to prevent and protect, it indicates that their existence is frequently due to carelessness on the part of a soda fountain operator. The refrigerating service engineer can perform a very valuable service to the owners of soda fountains by checking for them the possibilities of carbonic gas leaks.

LEAKS ON DRAUGHT ARMS

Most makes of draught arms are equipped with leather washers which fit snugly against the metal seat inside the valve mechanism. The purpose of the leather washer is to tighten the handle and ward off gas and soda water leaks.

The constant friction generated by the continuous operation of the draught arm lever soon wears out these washers, causing soda water to seep through drop by drop. The quantity of soda water which thus escapes is considerable. Soda water leakage, however, is by no means the only danger of worn out draught arm washers.

Worn out washers pave the way to expensive and serious CO₂ gas leaks. To overcome expensive gas and soda water leaks at this point of the soda fountain, worn out draught arm washers should be replaced about three times a year. This is a service which the service engineer can readily perform for the soda fountain owner. The new washers can be obtained from the soda fountain manufacturer.

LEAKS AT LINE COUPLINGS

Serious gas leaks are also to be found on the block tin soda line running from the carbonator to the soda fountain. This is especially true at the points where the connections are made by coupling. Varying climatic conditions are blamed for these leaks, the metal contracting in cold weather and loosening the joints. Merely by tightening these couplings at regular intervals these leaks may be remedied without a great deal of expense to the soda fountain operator.

LEAKS IN THE SODA WATER LINE

Loose connections, however, are not the only cause of carbonic gas and soda water leaks. Rats have a great desire for sharpening their teeth in the block tin pipe and gnawing holes through it. Many a serious and puzzling leak has been traced to these rodents.

When this condition arises, the pipes should be run through a conduit, especially when they pass through a section of the wall. If the block tin pipe is located in a warm basement, it is highly advisable to pass it through an asbestos pipe covering which will not only protect it, but will reduce the operating time of the condensing unit and keep the soda water more fully charged with CO₂ gas.

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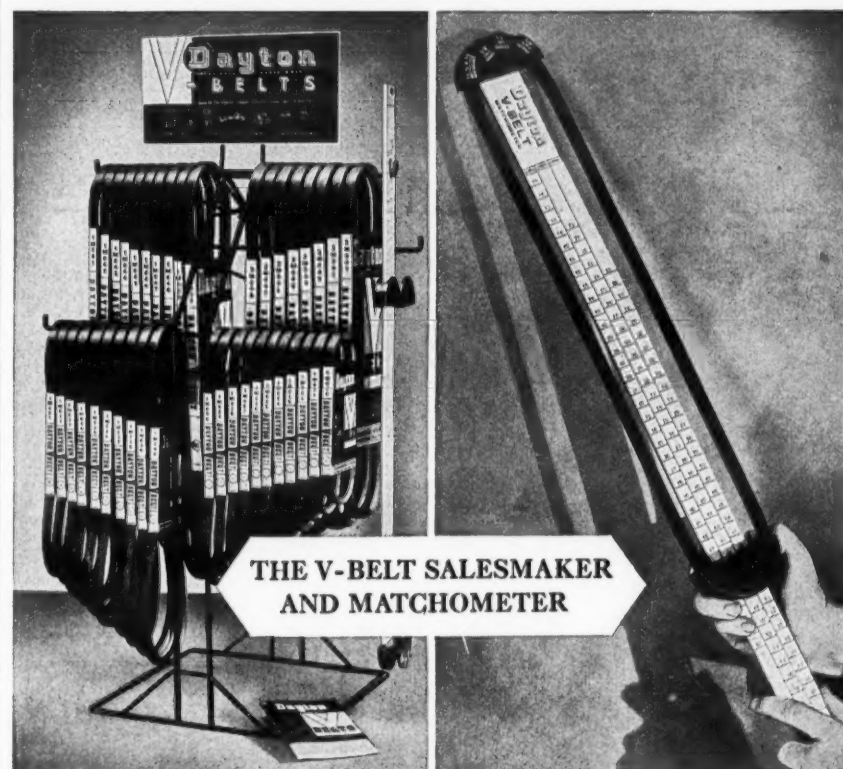
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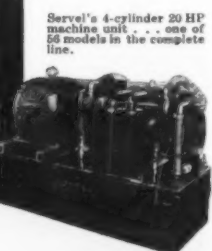
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Commercial Refrigeration

Servicing the Grunow Refrigerator Unit

Beginning a Series Covering Typical Complaints
And Recommended Service Methods

Editor's Note: General Household Utilities Co., which manufactured Grunow household electric refrigerators, has been placed in bankruptcy. For the benefit of those readers who may be called upon to service such units, AIR CONDITIONING & REFRIGERATION NEWS will publish, starting in this issue, such service information on Grunow household electric refrigerators as is available.

This information is taken from both the official factory service instructions, and also from service engineers who have specialized in work on Grunow units.

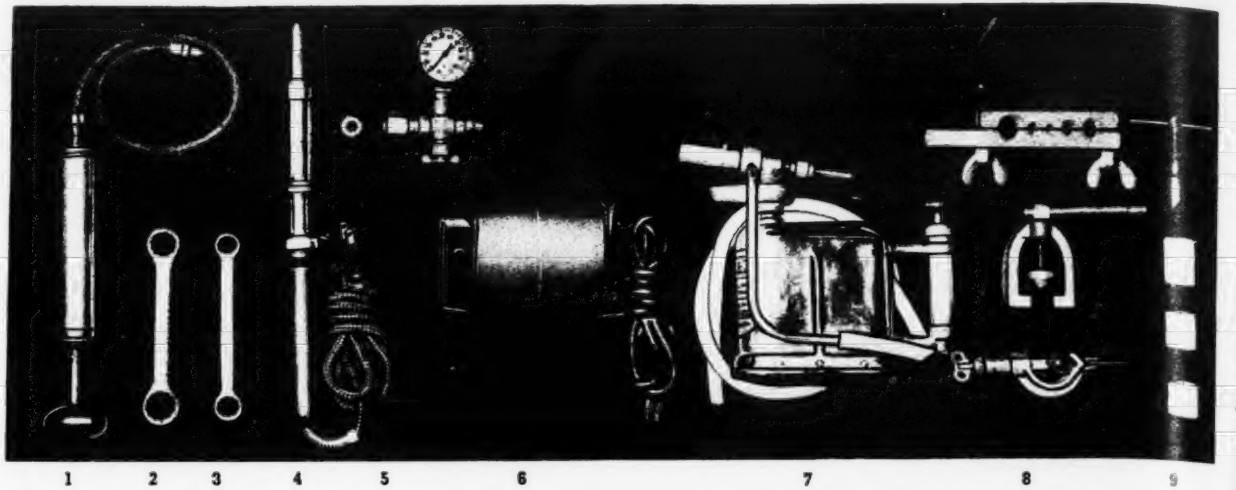
The following instructions con-

stitute the first instalment of the official factory service instructions published in 1935, covering Grunow systems equipped with both float valves (1933 and 1934 models) and Carrene meter-receivers (used on most of the 1935 models and all later models).

This information is presented along two lines, one part explaining some of the methods of checking and servicing the unit, and the other part being a series of possible complaints, with references to methods of handling such complaints.

The one main difference between Grunow and other household electric refrigerator systems is the low working pressures within the refrigerating system, because of the use of Carrene as the refrigerant. Unless the room temperature is above 100° F., all pressures are below atmospheric

Fig. 1—Suggested Tools For Use In Servicing Grunow Units



pressure in a refrigerator containing Carrene, and the atmospheric pressure is merely tending to enter the component parts of the refrigerating system.

Recommended Repair Kit

A dealer's repair kit, as recommended by factory service department, should consist of the following (the numbers will identify the tools shown in Fig. 1):

1. Special pump with hose and fitting for purge tool.
- 2 and 3. Special wrenches (shipping bolt lock nuts for model "C").
4. Electric soldering iron.
5. Leak test valve and gauge.
6. Float valve magnet.
7. Halide torch leak detector.
8. Flare tool complete, with tube cutter.
9. Refacing tools, $\frac{3}{16}$, $\frac{3}{8}$, $\frac{5}{8}$, and $\frac{1}{2}$ inch. Charging funnel (not shown).

The service man should make a charging funnel which consists of a small funnel soldered onto the end of 18 inches of $\frac{3}{16}$ inch copper tubing. The inspection tools consist of a roll of wrenches and screwdrivers, and the purge tool. See Fig. 2.

Recommended Inspection Kit

10. 5-inch screwdriver.
11. One $\frac{1}{4}$ inch single end wrench (for models C and D).
12. $\frac{3}{8}$ and $\frac{1}{2}$ inch double end wrench.
13. $\frac{3}{8}$ inch single end wrench.
14. $\frac{1}{16}$ and $\frac{3}{16}$ inch double end wrench.
15. $\frac{1}{2}$ inch offset wrench.
16. $\frac{5}{16}$ inch socket wrench.
17. $3\frac{1}{2}$ -inch screwdriver.
18. Pocket thermometer.
19. Purge tool.

One 1-inch single end wrench (for models J and K. Not shown).

Head Pressure

To read the head pressure of a Grunow refrigerator, remove the cap from the purge valve on the float or Carrene meter. Place a fiber gasket in the purge tool and attach to the purge valve. Make sure that the outer purge valve on the purge tool is closed.

By turning the purge tool handle to the right seat the handle in the slot of the inner purge valve core of the float or Carrene meter. Now give it a turn to the left. The gauge on the purge tool will immediately register the head pressure existing in the system. Quickly close the inner purge valve.

Watch the gauge closely and if the reading starts to go back to zero, this indicates that the gauge is leaking and the purge tool connection and the packing nut on the purge tool should both be tightened.

It is good practice never to leave the inner purge valve open except just long enough for the gauge to come to a steady reading.

In order to assist the service man

Fig. 2—Kit For Inspecting Grunow Refrigerators

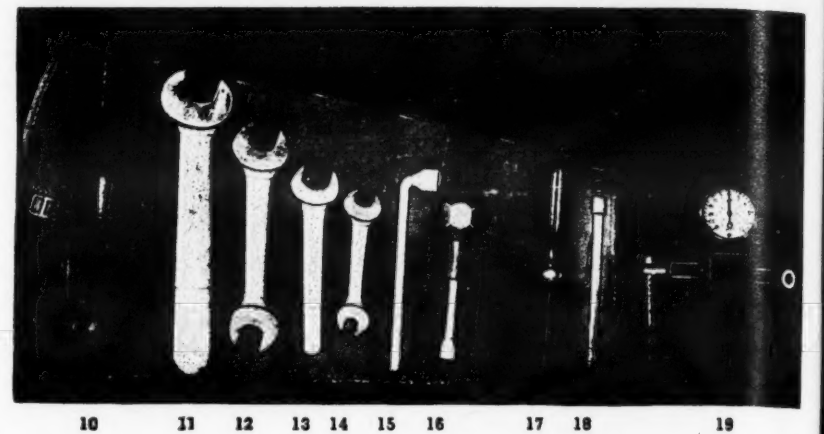


Table 1—Head Pressure-Temperature on Carrene

Room Temp.	At Sea Level	At 1,000 Feet	At 2,000 Feet	At 3,000 Feet	At 4,000 Feet	At 5,000 Feet	At 6,000 Feet	At 7,000 Feet
60°	13.4 in.	12.3 in.	11.2 in.	10.0 in.	9.1 in.	8.1 in.	7.2 in.	6.2 in.
65°	11.5 in.	10.4 in.	9.3 in.	8.1 in.	7.2 in.	6.2 in.	5.3 in.	4.3 in.
70°	8.4 in.	7.3 in.	6.2 in.	5.0 in.	4.1 in.	3.1 in.	2.2 in.	1.2 in.
75°	7.3 in.	6.2 in.	5.1 in.	3.9 in.	3.0 in.	2.0 in.	1.1 in.	0.1 in.
80°	5.0 in.	3.9 in.	2.8 in.	1.6 in.	0.7 in.	0.1 lbs.	0.6 lbs.	1.1 lbs.
85°	2.4 in.	1.3 in.	0.2 in.	0.5 lbs.	0.9 lbs.	1.4 lbs.	1.9 lbs.	2.4 lbs.
90°	0.2 lbs.	1.0 lbs.	1.3 lbs.	1.9 lbs.	2.4 lbs.	2.8 lbs.	3.3 lbs.	3.8 lbs.
95°	1.6 lbs.	2.2 lbs.	2.7 lbs.	3.3 lbs.	3.8 lbs.	4.2 lbs.	4.7 lbs.	5.2 lbs.
100°	3.1 lbs.	3.7 lbs.	4.2 lbs.	4.8 lbs.	5.3 lbs.	5.7 lbs.	6.2 lbs.	6.7 lbs.
105°	4.7 lbs.	5.3 lbs.	5.8 lbs.	6.4 lbs.	6.9 lbs.	7.3 lbs.	7.8 lbs.	8.3 lbs.
110°	6.6 lbs.	7.2 lbs.	7.7 lbs.	8.3 lbs.	8.8 lbs.	9.2 lbs.	9.7 lbs.	10.2 lbs.
115°	8.4 lbs.	9.0 lbs.	9.5 lbs.	10.1 lbs.	10.6 lbs.	11.0 lbs.	11.5 lbs.	12.0 lbs.

to determine whether the Grunow refrigerator has the correct head pressure, i.e., the head pressure that it will have if there is no air in the system and the air circulation through the unit compartment is not faulty, Table 1 has been prepared.

Since head pressure is governed by temperature, altitude, barometer reading, errors in the gauge, and the time in the cycle at which the reading is taken, the figures in the table are only approximate.

As an example for determining what the correct head pressure of a Grunow refrigerator should be, let us assume a location such as Denver, Colo., and the room temperature is 100° F. The average altitude of Denver is approximately 5,000 feet. If, on the table, we follow down the column headed "5,000 feet" to the line headed "100° F." we will find the figure 5.7 lbs. This means that the head pressure at the end of the on cycle should be about 5.7 lbs. per square inch as measured by an ordinary pressure gauge such as is a part of the purge tool.

Leaks—Air In the System

Air in the system is caused by a leak. This leak must be found and repaired. A low side leak will cause a greater head pressure than normal. A high side leak will cause a head pressure slightly greater than normal.

When a diagnosis indicates air in the system, the leak should be lo-

cated immediately before any other adjustment is made. The Halide leak detector will detect the slightest trace of Carrene and therefore the air around the refrigerator must be kept free from Carrene or the torch will immediately burn green which will make it difficult to locate the leak.

Procedure for locating a leak is as follows:

Finding Leaks In Units Having Carrene Meters

1. Place Halide torch in operation.
2. Tighten inner purge core with handle of purge tool. (To read the head pressure the purge tool has already been placed on the Carrene meter.)
3. Pull out the overload trip button on the thermostat to stop machine.
4. Remove cap from charging valve on evaporator header.
5. Remove core from valve with a screwdriver.
6. Place fiber gasket in leak test gauge fitting and attach to valve. Make sure fitting is on tightly. Open valve on fitting one full turn.
7. Attach automobile pump to fitting and pump between 40 and 50 lbs. pressure into the system and then close the valve on fitting. Caution: Do not use more than 50 lbs. pressure.
8. Now proceed with the Halide torch to detect the leak. Use the open end of the rubber hose on the torch and go over every possible

(Concluded on Page 17, Column 1)

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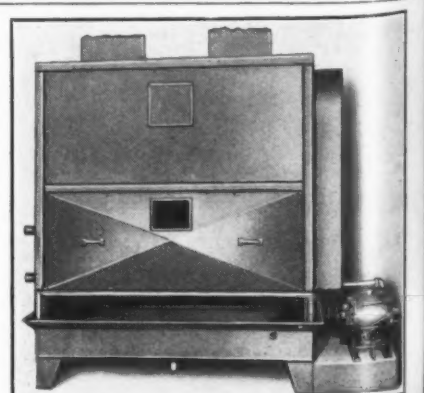
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Manufacturers of Complete Line of Low Side Equipment

Recommended Service Procedure on Grunows

(Concluded from Page 16, Column 5)
source of a leak on the entire refrigerator such as the following:

- Evaporator—all seams and joints, suction line, and liquid line connections.
- All tubing flare and soldered connections.
- Carrene meter and connections.
- Condenser-radiator and all connections.
- Compressor—dome gasket—inlet and outlet fitting—ceramics—flare connections.

Note: A very small leak is not easy to find. Therefore, use care in looking for it.

9. After the leak is located, release the pressure from the system by opening—first, release pressure from evaporator through fitting; second, the outer purge core on the purge tool; and, third, the inner purge core by means of the purge tool handle.

10. Repair the leak and test again by repeating the above procedure.

11. If no leak is indicated now, release the head pressure as before.

12. Remove leak test fitting from the evaporator. Place the core in valve and tighten well. Place cap on valve making sure that the lead gasket is in the cap. Tighten cap.

13. Now the system is ready for the regular purging procedure.

Finding Leaks In Units Having Float Valves

The same general procedure is used on these units as those having Carrene meters except that the leak test gauge fitting has to go on the float instead of the evaporator header. Therefore, remove the purge tool which has previously been attached to the float valve to read the head pressure, remove the valve core of float, and attach the leak test gauge fitting.

Then place the electro magnet around the float and plug the line cord of the magnet into the wall receptacle. This raises the float ball to allow the pressure within the system to equalize. Now attach the pressure pump to the leak test gauge fitting and pump up between 40 and 50 lbs. pressure.

Diagnosing Imperfect Operating Conditions

Imperfect operation of a Grunow refrigerator is evidenced by one or more of the following symptoms. After each symptom are listed possible causes, tests for determining exact cause, and service methods.

Complaint 1. Overload Trip Button Kicks Out

A. Condenser Covered With Dirt. Clean condenser with a small brush or vacuum cleaner attachment by reaching up from underneath at front of cabinet on bottom mounted unit refrigerators. On top mounted unit refrigerators, clean condenser-radiator by running a long handled brush, such as a small tube cleaner, down between cabinet and condenser. Make sure that condenser is thoroughly clean when finished.

B. Faulty Air Circulation. Lay a thermometer on the electrical unit box with bulb over edge, away from compressor. With unit compartment door closed, back air deflector in place, top of cabinet on, and refrigerator in original location, check the temperature of the unit compartment

by allowing the refrigerator to run 10 minutes or more. This test to be made only if the refrigerator has been in regular operation previous to test.

If the temperature is more than 10° higher than room temperature the air circulation is faulty and a check should be made for obstructions close to rear of cabinet which might prevent free passage of air up and out of air duct at rear. See that refrigerator cabinet is at least 3 inches from the wall so that air will circulate freely, and that top mounted unit refrigerator cabinet is as close to wall as baffle shield will permit in order to prevent recirculation of air. Make sure that fan is running properly. Replace if found to be stalled or running slow.

C. Air In the System. Attach purge tool to the float valve or Carrene meter and read the head pressure. (See instructions.) If above normal (see Table 1) either the air circulation is faulty or a leak is indicated. Check the possibility of faulty air circulation (refer to Part 1B) and if this is not the cause then check for a leak with a Halide leak detector (see instructions). THE LEAK MUST BE FOUND AND REPAIRED!

D. Low Line Voltage or Incorrect Frequency. Check line voltage with voltmeter when refrigerator is stopped and when running. If there is more than four volts difference between the readings, either the house wiring or power supply is faulty. If power supply voltage at house meter is 10 volts or more less than voltage given on unit name plate, call the power company and register complaint.

If power supply is not at fault then a special line should be run from the meter to the refrigerator. Check frequency with power com-

pany to that given on unit name plate. Do not use a refrigerator on frequencies other than that indicated on the unit name plate except that 50-cycle units may be used on 60-cycle current.

E. Faulty Relay. Check relay by starting unit while watching relay. Relay plunger should rise and make contact and then immediately drop to original position. If the plunger does not rise, the line voltage is probably below 95 volts (as measured with refrigerator not running), or relay is faulty.

If relay bounces up and down when starting, then the relay is faulty. If plunger fails to drop after about five seconds, it indicates either air in the system, faulty air circulation, faulty electrical unit, or a tight compressor. Replace relay if found to be faulty.

F. Faulty Electrical Circuit or Unit. Check electrical system for continuity and shorted circuits with Diagram (to be published later). See instructions for testing of parts of the electrical unit. Repair or replace parts of circuit found to be faulty.

G. Faulty Overload Trip. Stop refrigerator for 10 minutes. Hold down plunger of relay with wood handle of screwdriver. Start the refrigerator. If the overload trip button pops out in less than 25 seconds or more than 90 seconds, the overload trip is faulty and the thermostat should be replaced.

H. Restricted Liquid Line on Units Having Carrene Meters. Refer to Complaint 6-J.

I. Tight Compressor. After having eliminated the possibility of all the preceding causes given under Part 1, then a tight compressor may be assumed and should be replaced.

(Other Service Complaints to be Diagnosed in Future Issues)

How To Install a New Type Carrene Meter

With Table & Procedure For Checking Proper Charge

Editor's Note: The following information on installing new type meter-receivers on Grunow units was furnished by Jack Shinberg, onetime Grunow national service manager, who now operates the Grunow Factory Authorized Service Co. at 1915 Shattuck Ave., Berkeley, Calif. Mr. Shinberg sells parts for Grunow units and specializes in service work on the Grunow compressor. For more information about Mr. Shinberg, see page 9 of the Aug. 9 issue.

It is recommended that the newest type Carrene dehydrator-meter-receiver part No. 11234-5 be installed whenever a float valve or an old-type Carrene meter assembly is removed to correct a service complaint.

The new type Carrene meter receiver part No. 11234-5 has many additional advantages over previous types of Carrene meter receivers and float valve assemblies and will produce as a rule more uniform cycles and an overall improved performance.

This meter has an external metering tube which can be taken apart and cleaned at any time, thereby eliminating the necessity of replacing the entire assembly in the event of future trouble. Also, the receiver body can be baked out in an oven for about five hours at 200° in the event it becomes moisture clogged. In this way it can be used over and over.

Table "A" gives the proper Carrene and oil charges on all models of Grunow household electric refrigerator units, which enables the serviceman to check accurately the charges of Carrene and compressor oil in the various units on which they are installing Carrene meter receiver part No. 11234-5.

It is very essential that the serviceman follow strictly the recommended installation methods in installing the new meter assembly. Following is the step-by-step procedure:

- Remove air duct from back of cabinet.
- You will note that the liquid line has a rubber sleeve. Pull this down. This will expose a ¼-inch flare nut connection which connects the liquid line coming from the old type meter or float. Break this connection and in so doing be sure to hold the fitting which is soldered to the liquid line as tight as possible, otherwise you may break the soldered connection. Place a clean container under this fitting. Then

remove the suction line from the compressor and force air up the suction line. This will permit all Carrene that is in the evaporator to flow into the container.

3. Remove the hold-down bolts from the mounting board assembly and slide the entire mounting board out onto the floor.

4. Remove the old style meter or float that is defective.

5. If the cabinet has a removable panel in the front of the unit compartment, fasten your new meter assembly so that the purge core opening is facing toward the front of the cabinet, but if it is to be installed on a cabinet without a removable front panel, then install the meter with the purge core opening facing to the rear of the cabinet, bringing the metering tube line around the meter itself and out the back.

Under no consideration ever cut off any of the metering tube. Simply coil up the excess tube as it comes furnished to you.

By installing the new style meter in this fashion, you can always take your readings on a purge gauge. It is advisable to mount the meter on the board assembly while you have it out of the cabinet. Then remove two of the screws so that you can swing the meter a little to clear the suction line when you put the board assembly back in the cabinet. Replace the two screws so that the meter is secured in place.

Next step is to reconnect the suction line, loosen the purge core

(Concluded on Page 18, Column 1)

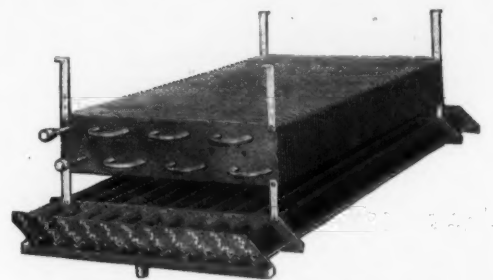
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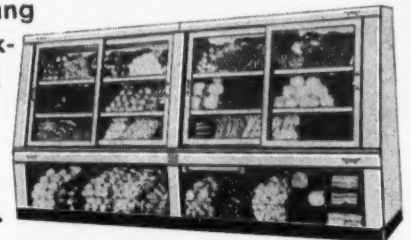
Shown:—Larkin All-Metal Disseminator Pan. Finished in gleaming aluminum—highly efficient installation in combination with Larkin staggered tubing coils. All metal double type louvers for positive guard against condensate drip.

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Ranco RJS Household Replacement Control



Ranco G-2 Commercial Control

Ranco INC., COLUMBUS, OHIO, U.S.A.

Method of Installing a New Meter & Checking Refrigerant Charge on a Grunow Unit

(Concluded from Page 17, Column 3) in the new meter, and block the fan, making sure not to bend the blades. The job is then ready to be recharged.

Take the Carrene drained out of the evaporator, plus what is dumped out of the old style meter or float, and add six ounces of refrigerant to this. It will not be a correct charge, but will provide refrigeration. The service man should always return to the job the following day to check for an accurate charge.

For a starter, however, the serviceman can use the old refrigerant plus the addition of the six ounces. Next move is to fasten a 10-inch length of 1/4-inch tubing with a 1/4-inch flare nut to the end of the

liquid line going up the back of the cabinet. Then start the compressor, drawing the Carrene up into the evaporator.

Next remove the 10-inch piece of tubing and fasten the metering tube from the Carrene meter to this liquid line, making sure that the soldered fitting is held securely so as not to cause a leak. See that these connections are covered with a piece of insulating rubber, otherwise they will frost up and drip water on the floor.

Allow the compressor to run until the condensing coils and meter assembly are fairly warm. Filling the bottom ice cube tray with hot water will hasten this procedure.

Next tighten the purge core in the meter, pull the block away from the fan, and set the cold control at No. 2 position. Let it run until the unit cycles off. Check the readings on the purge gauge. They should read according to Table "B."

If this checks correctly and you are certain there are no leaks, leave

tubing and a flare nut and fasten this securely on the union fitting with the plain end submerged in the clean container of Carrene which should contain the correct Carrene drain-out charge.

11. Make sure the purge core opening in the Carrene meter receiver is open. Block the fan and then start and run the compressor only long enough to allow all the Carrene to be drawn into the evaporator from the container. Then stop the compressor immediately.

12. Remove the liquid line attachment and immediately reconnect the metering tube assembly to the union fitting on the liquid line leading to the evaporator. Be sure to replace the rubber sleeve. Then let the compressor run with fan blocked and purge core open until condensing coils and Carrene meter are warm. Tighten purge core securely and check your reading on purge gauge in about 10 or 15 minutes to make certain that it corresponds with the reading in Table 2. If the reading is correct, remove the gauge and replace the cap, making certain that the lead gasket is on the inside of the cap.

13. Be sure to test the entire refrigerating system for any leaks.

Table 'B'—Head Pressures

Room Temperature	Up to 1,000 Feet
60°.....	13.4 in.
65°.....	11.5 in.
70°.....	8.4 in.
75°.....	7.3 in.
80°.....	5.0 in.
85°.....	2.4 in.
90°.....	0.2 lbs.
95°.....	1.6 lbs.
100°.....	3.1 lbs.
105°.....	4.7 lbs.
110°.....	6.6 lbs.
115°.....	8.4 lbs.

the job until the following day. Then return and check your return charge according to the following instructions:

1. Make sure that the unit has been in operation for at least six hours immediately previous before attempting to check the charge. Also be sure that the compressor assembly is warm.

2. Install purge gauge to check to see that there are no leaks.

3. Remove the refrigerator line cord from the electrical outlet.

4. Remove the air duct from rear of cabinet.

5. Disconnect the flare nut from the union fitting on the liquid line leading to the evaporator. This is under the rubber covering at the back of the cabinet. Place a clean container which holds at least 48 liquid ounces (1 1/2 quarts) under the union fitting and immediately disconnect the suction line from the compressor.

6. Create a pressure in the suction line to the evaporator so that the liquid Carrene in the evaporator will drain through the liquid line into the clean container.

7. When the Carrene in the evaporator has all drained out, leave the suction line fitting off and plug in line cord and start the compressor for just a second, holding the metering tube from the Carrene meter receiver over the container and repeat starting and immediately stopping the compressor until no more liquid Carrene can be forced from the meter.

By pulling in air through the suction fitting on the compressor you build up a pressure in the condensing coils and in the meter receiver. This forces all drain-out charge from the system.

8. The amount of Carrene drain-out in the container, after the above procedure has been carried out, should be the same as shown in Table "A" for the model being checked. If not, it should be corrected.

9. Replace the suction line on the compressor.

10. Take a 10-inch line of 1/4-inch

Locker Operators Tell Operating 'Tricks' At Wisconsin Meeting

MADISON, Wis. — First annual meeting of Wisconsin locker plant operators which was held here recently included a question-and-answer session which brought to light a number of interesting points in regard to the operating policies and procedure of the plants represented.

One operator explained that he had solved the key problem by erecting a key rack. Hooks on this rack are identified by locker numbers, and two keys to each locker are kept on these hooks. This system provides a substitute key for use in case the customer walks off with or misplaces the key which he uses. Customers are never permitted to use the master key, however.

Another operator reported that he insisted upon all keys being kept in the plant, and that he had not lost a single key in a year and a half of operation.

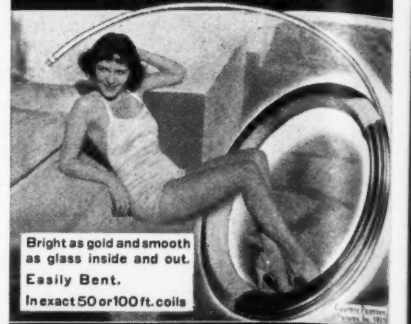
Manager of one plant said that he makes use of the city delivery service to send food from the plant to his patrons' homes. A charge of 1 cent per pound is made for this service, and deliveries are made several times a week.

Still another representative volunteered the information that he uses the milk trucks which pick up milk from all farmers in the vicinity as a delivery service. The farmers note on a slip of paper the meat or other products they want from their lockers and then pass these notes to the driver of the milk wagon who, in

turn, passes them on to the operator of the locker plant and then delivers the produce on his return trip.

From one operator came the information that his plant was installing radium light systems that can be seen pointing to the door in case the locker room lights go out. Most alarm devices and other gadgets for the safety and convenience of locker plant patrons are still in the experimental stages, however, it was indicated.

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Table 'A'—Correct Refrigerant and Oil Charge

Evaporator Type	Size	Refrig. Model	Unit Type	Oil Charge	Carrene Total Charge	Carrene Drain-out Charge	Carrene Left In Meter	Carrene Left In Comp.	Carrene Left In Evap.
Single Header	2 Tray	50-C	C	24	40.5	27.0	6.0	2.0	5.5
	2 Tray	50-D	D	36	41.0	27.0	6.0	2.5	5.5
	2 Tray	50-G	C	24	40.5	27.0	6.0	2.0	5.5
	2 Tray	50-H	C	24	40.5	27.0	6.0	2.0	5.5
(Porcelain Front)	3 Tray	60-C	C	24	43.5	30.0	6.0	2.0	5.5
	3 Tray	60-G	C	24	43.5	30.0	6.0	2.0	5.5
	3 Tray	70-G	C	24	43.5	30.0	6.0	2.0	5.5
	3 Tray	75-C	C	24	43.5	30.0	6.0	2.0	5.5
Double Header	2 Tray	46-D	D	36	48.0	33.5	6.0	2.5	6.0
	2 Tray	54-D	D	36	48.0	33.5	6.0	2.5	6.0
	3 Tray	65-D	D	36	51.0	36.5	6.0	2.5	6.0
	3 Tray	65-SD	D	36	51.0	36.5	6.0	2.5	6.0
(Metallic Front)	4 Tray	80-D	D	36	54.0	38.5	6.0	2.5	12.0
	4 Tray	80-SD	D	36	54.0	38.5	6.0	2.5	12.0
	4 Tray	82-DSD	D	36	54.0	38.5	6.0	2.5	12.0
	4 Tray	82-HSD	H	36	54.0	38.5	6.0	2.5	12.0
Single Header	2 Tray	50-M	M	36	40.5	32.0	6.0	2.5	...
	2 Tray	50-S	J	36	40.5	32.0	6.0	2.5	...
	3 Tray	51-D	K	36	44.0	35.5	6.0	2.5	...
	3 Tray	51-M	M	36	44.0	35.5	6.0	2.5	...
(Metallic Front)	3 Tray	52-D	K	36	44.0	35.5	6.0	2.5	...
	3 Tray	56-SD	K	36	44.0	35.5	6.0	2.5	...
	3 Tray	58-M	M	36	44.0	35.5	6.0	2.5	...
	3 Tray	60-S	K	36	44.0	35.5	6.0	2.5	...
	3 Tray	61-D	K	36	44.0	35.5	6.0	2.5	...
	3 Tray	61-M	M	36	44.0	35.5	6.0	2.5	...
	3 Tray	62-D	K	36	44.0	35.5	6.0	2.5	...
	3 Tray	67-M	M	36	44.0	35.5	6.0	2.5	...
	4 Tray	67-D	K	36	47.5	39.0	6.0	2.5	...
	4 Tray	67-SD	H	36	47.5	39.0	6.0	2.5	...
	4 Tray	70-R	R	36	47.5	39.0	6.0	2.5	...
	4 Tray	82-R	R	36	47.5	39.0	6.0	2.5	...
	5 Tray	82-D	H	36	51.0	42.5	6.0	2.5	...
	5 Tray	82-SD	H	36	51.0	42.5	6.0	2.5	...

Catalog on Chain Drives

HARTFORD, Conn. — Information on selection and design of silent chain drives is contained in a catalog recently issued by Whitney Chain & Mfg. Co. The catalog includes 64 pages of engineering data, dimensions, and horsepower ratings.

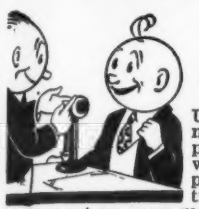
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CADILLAC SQUARE AT BATES STREET

New Products

Frosted Food Cabinets
Added By Kelvinator

DETROIT—Self-contained frosted foods cabinets in eight and 12-hole models have recently been added by Kelvinator to its line of commercial refrigeration equipment. Display panel, dispensing containers, and refrigerating unit are all contained in one cabinet, making the unit usable as either counter or island display.

Exterior of the cabinets is constructed of heavy-gauge sheet steel welded into a one-piece assembly. Top, of stainless steel, is set flush with cabinet sides, and base is recessed to afford toe room. Finish of cabinet itself is of white lacquer, with the base finished in black lacquer.

Flavor board is constructed of steel and finished in Dulux, and the panel is equipped with translucent frosted foods pictures, illuminated from within the panel (five pictures on each side) to feature products on sale. Cabinet lids are of the "flip-flop" type, made of black molded rubber faced with stainless steel, top and bottom. Edges are of flexible rubber to provide tight sealing.

STORAGE CHAMBERS

Storage chambers are rectangular in shape, with refrigerant tubing on all four sides. Optional equipment is lift-out baskets of heavy-gauge wire, for use in keeping foods of a certain type arranged separately and convenient to get at. Each deep sleeve will hold two of the baskets, and each shallow sleeve one. Eight-hole model accommodates 14 baskets, and the 12-hole model, 22 baskets.

Condensing unit is two-cylinder "Freon" model, powered by a 1/2-hp. motor. The unit slides out for convenient inspection or adjustment without closing valves, disconnecting lines, or shutting off current.

Width and height of both models is identical, the former being 30 1/2 inches and the latter 54 1/2 inches. Length of the eight-hole model is 63 1/2 inches, and of the 12-hole model 88 1/2 inches. Smaller model will hold 320 lbs. of food; the larger model holds 500 lbs.

Airtemp Oil Burner Uses
'Twin Airflow' Feature
To Better Combustion

DAYTON, Ohio—A new oil burner, employing the "twin airflow" principle to obtain improved combustion through better mixture of oil and air, has been introduced by Airtemp.

Two separate fans on opposite sides of the new unit direct two air streams into the blast tube from opposing tangents to create a balanced turbulence for more thorough mixture of air and oil. The fast-spinning air that results from the twin airflow is said to produce a circular ring of fire, that contacts the firebox walls for maximum efficiency and greater economy of fuel.

The new burner also is claimed to produce a stable flame, since the air for combustion is regulated at the fan outlet rather than the fan inlet, to gain cleaner combustion and savings in fuel cost.

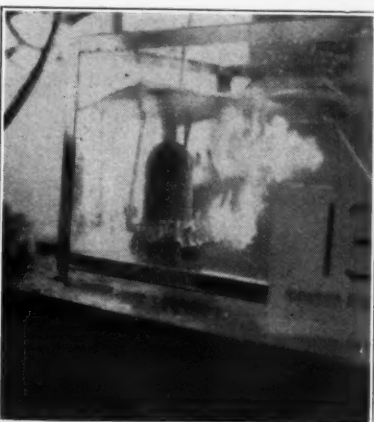
Power assembly of the burner is cushioned in rubber for quieter operation and long life.

Cutler-Hammer Introduces
Appliance Service Control

MILWAUKEE — Cutler-Hammer has recently introduced a small size, type MO "Multi-Breaker" service control rated from 15 to 25 amperes.

Designed for use in home, shop, commercial building, or farm, the unit functions as an entrance or service switch with overload and short circuit protection on lighting circuits, stokers, water heaters, refrigeration units, air-conditioning equipment, etc. It can be installed wherever fused type switches are employed. Only a small lever need be reset to restore service, it is claimed.

Works Under Water



Buddy to two goldfish was a Square D solenoid in this "submarine" test for leaks.

Solenoid Valve Added To
Square D Control Line

DETROIT—Square D Co. recently has enlarged its line of control products for the commercial refrigeration and air-conditioning field through the addition of two new devices, a solenoid valve and a capacity booster valve.

The Class 9150 solenoid valve is for the liquid and suction line control of "Freon," methyl chloride, and sulphur dioxide in refrigeration and air-conditioning systems. Valve body is a special brass forging, to eliminate seepage due to porosity or blow holes.

Body is styled for appearance, and is finished in a blue cover designed to contrast with the forged brass, yet retains the practical features of a mounting pad and provision for holding with a wrench.

Armature is of stainless steel. In operation of the valve, maximum lift with a minimum of power is said to be obtained by means of the impact with the needle head. A shading coil seals the armature with the flat surface above it, to cut down noise and vibration.

Needle has a tip of hard non-magnetic stainless material, and valve seat is of similar material, somewhat softer, to assure positive closing. Seat is removable to allow armature replacement. New armature, including needle and seat, may be installed after removal of the bottom plug. This plug needs no gasket, having a metal to metal seal.

Operating coil is of the moisture resisting type. A spring between the cover and the upper washer holds washer and coil to prevent noise from looseness of parts. A kick-off pin, actuated by a spring, operates to eliminate any residual magnetic effects, usually resulting in sticking.

Application of the valves to a multiple temperature refrigeration system, it is said, permits the temperature of each fixture to be varied independently by adjusting the thermostat in the fixture. A solenoid valve in series with the pressure operated water valve and with leads in parallel with the motor will assure positive water shut-off when the machine stops, it is said.

Used in connection with pressure-stats and a modulating air thermostat for temperature control in an air-conditioning system, the valves cut sections of the evaporator in and out, according to the demand for cooling. The valve also may be used with a humidistat and humidifier in winter air-conditioning applications.

The capacity booster valve is a pilot operated valve of high capacity. Operating piston is large in proportion to the orifice size, to allow powerful, smooth, modulating action to be obtained. The valve may be used in applications where high capacity is required, and where the type of action desired can be obtained in small valves or in combinations of small valves.

New Tool Catalog Issued

CHICAGO—Armstrong Bros. Tool Co. has issued a new general catalog (No. C-39) which lists all the lines it manufactures, including tool holders, head socket wrenches, clamps, lathe and milling machine dogs.

Carbondale Units Handle
Loads Up To 400 Hp.

HARRISON, N. J. — Carbondale-Worthington has introduced a new vertical duplex double-acting refrigerating machine having an enclosed crankcase. Built in two sizes, 10 1/2 inches by 8 inches and 13 inches by 10 inches, for "Freon" or ammonia, the new compressor will handle air-conditioning loads ranging from 150 to 400 hp.

Equipped with the Worthington "feather valve," the compressor handles refrigerant on both strokes of the piston, assuring balanced operation on both cylinders at all times. The action, together with the valve system, makes possible higher rotating speeds, it is claimed.

Air Filter Operation Described

LOUISVILLE, Ky. — A new bulletin describing the operation of the "Electro-Matic" air filter has recently been issued by American Air Filter Co.

The booklet describes the operation of the new filtering unit, and gives complete data necessary for making installations. Mechanical data and suggested specifications are also listed.

First-Aid Supplies Listed

NEW YORK CITY—New catalog and handbook of industrial first-aid and emergency medical supplies has been issued by Davis Emergency Equipment Co.

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Lower Power Rates O.K.'d For Housing Projects In Two States

RALEIGH, N. C.—Publicly owned and operated non-profit housing projects are entitled to special low rates for electric service, the North Carolina Utilities Commission ruled in approving a schedule of special rates requested by Carolina Power & Light Co. for power to be furnished to tenants of public housing projects built under the state housing act.

A ruling on the same subject was handed down by the Pennsylvania Public Utility Commission on July 18, when Metropolitan Edison Co. was granted permission to create a special rate for public housing projects.

The North Carolina commission justified the lower special rates economically on the ground that it costs less to service an entire neighborhood with one meter at primary voltage than to service a similar neighborhood with special lines and meters for each family; that little credit risk is involved in a federally subsidized project; that there is no promotion and new business expense to the utility; and that the project, equipped with permanent appliances, assures a steady consumption of energy to families who otherwise could purchase no electrical service.

In making its ruling, the commission also pointed out that local housing authorities have been declared by the supreme court of North Carolina to be public, non-profit corporations devoted to public use, and that project tenants will be families who could not otherwise afford decent housing, and whose incomes may not exceed five times the rent plus the cost of light, heat, water, and cooking fuel.

Three North Carolina communities, Raleigh, Charlotte, and Wilmington, have U. S. Housing Authority loan contracts totaling \$5,595,000 for the construction of low-rent housing and slum clearance projects. Construction on the Raleigh and Wilmington projects is expected to be started soon.

Raleigh project will provide homes for about 400 low-income families, and will eliminate an equal number of sub-standard structures throughout the city.

U.S.H.A. Administrator Nathan Straus termed the North Carolina ruling "a favorable precedent for similar action throughout the country." Without reduction of rates on low-rent housing projects, he pointed out, utility costs would, in some instances, amount to almost as much as the shelter rent.

Greutzmacher Joins Geo. Philips Co.

LA CROSSE, Wis.—C. J. Greutzmacher, commercial refrigerator engineer, has become affiliated with the George C. Philips Appliance Co. here. Mr. Greutzmacher recently installed a food locker plant at West Bend, Wis., consisting of a 40 x 92 foot building containing 520 lockers, and erected at a cost of \$27,000.

Locker Plants Nucleus In REA's Program For Processing Centers

WASHINGTON, D. C.—Refrigerated locker storage plants will form the nucleus of most of the community food processing centers to be established throughout the country by Rural Electrification Administration with the aid of its new appropriation.

Purpose of the plan is to provide adequate food preservation facilities for people living in rural areas where such facilities have heretofore been unavailable. In many sections (such as the South), this program, if carried to its logical conclusion, will have a tendency to change the diet of the people as a whole by enabling them to have fresh foods instead of such poor substitutes as salt pork. This in turn will tend to improve the physical health and raise the mental outlook of these people, it is pointed out.

Preliminary plan calls for construction of one of the processing centers in every state in the Union. First of the series already is under way at Camilla, Ga. Commitments have been made for similar plants at Quitman, Tex. and in Caddo county, Oklahoma. Another of the early plants probably will be located somewhere in the northwestern states.

Working model for the processing centers will be the REA-financed locker plant at Piqua, Ohio. Although most of the centers will be built around similar refrigerating plants, others may have a feed grinding mill or a chick hatchery as the central unit. Such units as plant nurseries (complete with soil heating equipment), pig brooders, cherry canning plants, and creameries are also under consideration as processing centers.

Allotments for the centers are expected to go forward rapidly after July 1, when the REA appropriation is to become effective. These units will be organized on existing or new cooperative projects. REA will contribute up to an average of 80% of the financing for these plants, the other 20% to be raised by local subscription.

Although the comptroller general ruled several months ago that it was within the authority of REA to finance locker plants and other such community projects, the agency has proceeded slowly while John M. Carmody, REA chief, and his field staff have been investigating facilities of existing locker plants.

REA officials recently announced that over 80 applications for locker plants were on file, and it is believed that at least six allotments for such projects will be made immediately following the granting of the 1940 appropriation.

Cutler-Hammer Expands Denver Office For Better Coverage

DENVER — Personnel, facilities, and stocks of Cutler-Hammer, Inc.'s Denver office have been expanded in a move to effect improved coverage of the company's Colorado territory. H. L. Vaughan is the Cutler-Hammer representative here.

CLASSIFIED ADVERTISING

RATES: Fifty words or less in 6-point light-face type only, one insertion, \$2.00; additional words, four cents each. Three consecutive insertions \$5.00; additional words ten cents each.

PAYMENT in advance is required for advertising in this column.

REPLIES to advertisements with Box No. should be addressed to Air Conditioning & Refrigeration News, 5229 Cass Ave., Detroit, Mich.

POSITIONS WANTED

OVER THIRTEEN years in refrigeration business, mostly commercial. Five years buying and selling refrigeration parts and supply jobbing business. Can manage jobbing business or do commercial selling. Jobbing or manufacturing business preferred. Excellent references and bond. Box No. 1178, Air Conditioning & Refrigeration News.

FRANCHISES AVAILABLE

COMMERCIAL LINE refrigerator display cases, walk-in coolers, and refrigerators; also direct draw mechanically cooled beer coolers. Sell with Ehrlich Compressors or with any other make. Attractive discounts also financing arrangements to help sell. 70 years in business. Write for full information. EHRICH REFRIGERATOR MFG. CO., St. Joseph, Mo.

BUSINESS OPPORTUNITIES

WELL ESTABLISHED Appliance Distributing business for sale in large Mid-Southern City. Long terms, low rental lease on new building constructed for this business. Railroad track to door. Leading franchises, large territory, clean inventory. Potential sales volume of \$500,000 per year. Will require \$25,000 cash; wholesale financing assistance available, if desired. Box 1172, Air Conditioning & Refrigeration News.

FOR SALE—Commercial refrigeration business and manufacturing equipment

for complete line of condensing units. Interested inquirers write Box No. 1179, Air Conditioning & Refrigeration News for further data.

EQUIPMENT FOR SALE

MANUFACTURER of ½ ton "Freon" Window Type Room Air-Conditioning Unit has a limited supply of brand new 1939 models on hand. Will dispose of them to the trade for \$145.00—10% discount in lots of 10—20% discount in lots of 25. Write Box No. 1175, Air Conditioning & Refrigeration News.

SPECIAL NEW Mullins evaporators in original cartons. Overall dimensions, 10 in. wide, 9½ in. high, 11 in. deep. Come packed 2 in each carton. These evaporators are less floats and are factory sealed. Prices as follows: One carton of 2, \$4.00; in lots of 10, \$3.50 per carton of 2; in lots of 25, \$3.00 per carton of 2. REFRIGERATION SURPLUS JOBBERS, 545 Woodland Ave., Cleveland, Ohio.

GENERAL ELECTRIC compressors and motors, Frigidaire compressors and Delco motors; brand new ¼, ½ and ¾ HI Side units; complete with Square D low pressure or temperature controls. Low prices, money back guarantee. New Electricatic water valves, type WRP ¾"—lots of six—\$3.95 each. MARTIN SPECTOR, 520 East 20th St., New York City.

AVAILABLE 29 used electric refrigerators and 21 used electric ranges. List furnished on request. PITTSFIELD COAL GAS COMPANY, Pittsfield, Mass.

REPAIR SERVICE

CONTROL REPAIR service. Your controls repaired by expert mechanics, with special precision equipment. Supervised by graduate engineers. We stress perfection and dependability before price. One year guarantee on domestic controls. Any bellows operated device repaired. HALETRIC LABORATORY, 1793 Lakeview Road, Cleveland, Ohio.

G.E. and Westinghouse hermetic units rebuilt with factory equipment. G.E. DR1-DR2—\$30.00; Westinghouse \$27.50; one year guarantee, prices on other models on request. Deal with the original hermetic unit rebuilders—REX REFRIGERATION SERVICE, INC., 2226 S. State St., Chicago, Ill.

GENERAL ELECTRIC DR1 and DR2 Monitor Top units exchanged, \$30.00 F.O.B. our factory. Send your defective unit. On receipt, we make immediate shipment of completely rebuilt, refinished unit with one year unconditional guarantee. Like new in every respect. Westinghouse and Servel hermetic units rebuilt and guaranteed. REFRIGERATION MAINTENANCE CORPORATION, 321-27 East Grand Avenue, Chicago, Illinois.

DOMESTIC TYPE thermostatic controls reconditioned like new. Precision work by experts. Years of satisfied customers, among largest in the country. All work guaranteed. Try us and be convinced. The largest thermostatic repair service in the country. It's your guarantee. Prices on request. UNITED REPAIR CO., INC., 342 W. 70th St., New York City.

PATENTS

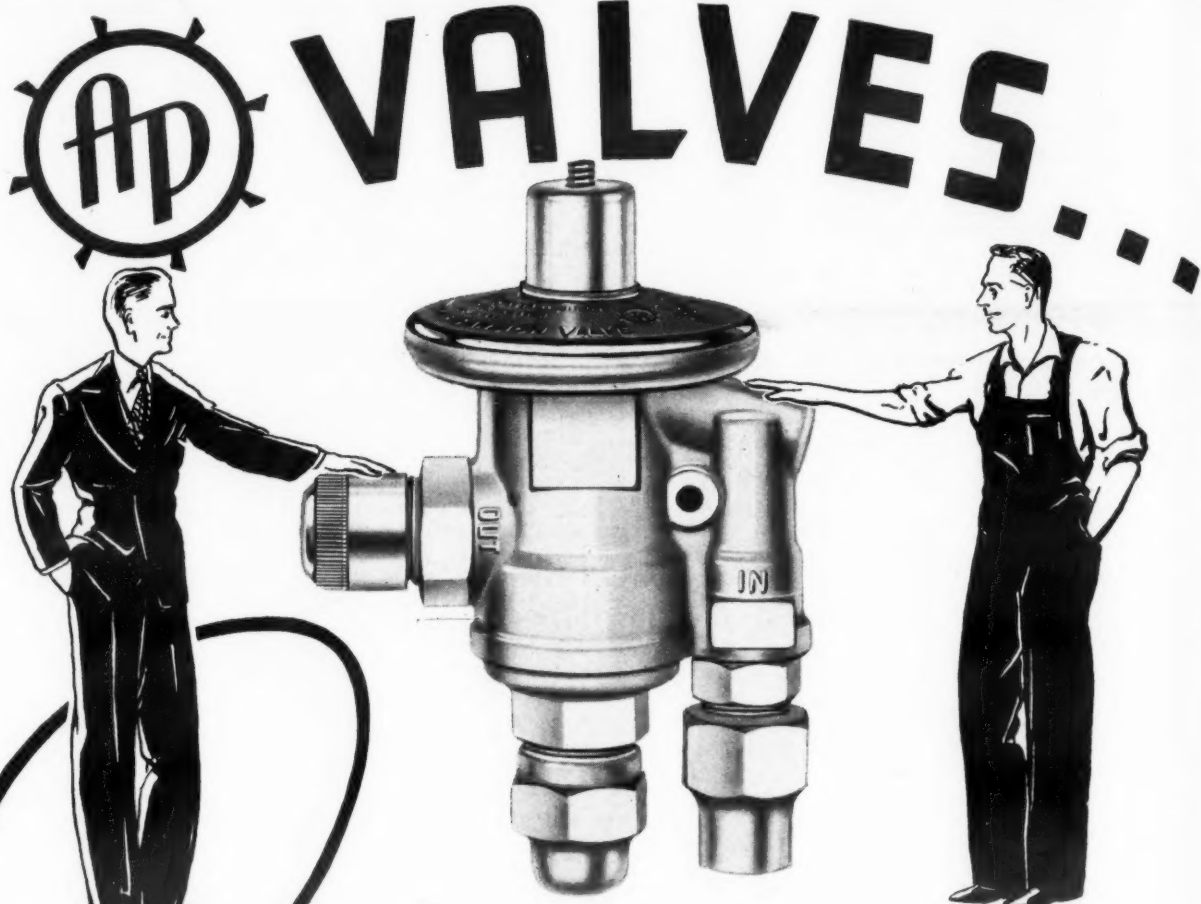
HAVE YOUR patent work done by a specialist. I have had more than 25 years' experience in refrigeration engineering. Prompt searches and reports. Reasonable fees. H. R. VAN DEVENTER (ASRE), Patent Attorney, 342 Madison Avenue, New York City.

Low-Price Washer Added To Kelvinator Line

DETROIT—New low-price washer known as model 79C has been added by Kelvinator to its line of home laundry equipment. The company now has seven models in its washer series.

Features of the new machine include a 20-gallon tub, with capacity for 8 lbs. of wash at one time; all-white exterior finish; all-porcelain tub; massive wringer; end pressure reset; automatic water board; balloon wringer rolls; bar pressure release safety action; adjustable pressure for various fabrics and materials; silent mesh transmission.

Two lock casters keep the machine from moving on a sloping floor.



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A-P Valves are proving themselves "free from service" on Refrigeration and Air Conditioning Installations of every type and size—providing accurate, supersensitive Refrigerant control that aids you to Profits.

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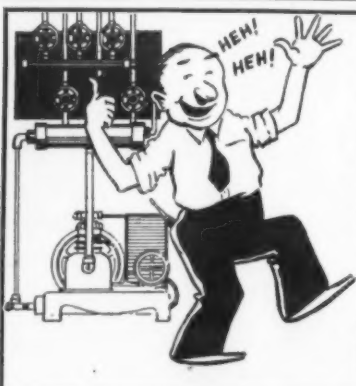
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COPELAND REFRIGERATION CORPORATION, Sidney, Ohio

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... At last, a complete factory assembled manifold, mounted on a plywood panel. Only four screws to install, and the job is finished!

SUPERIOR Type HE Manifolds have built-in heat exchangers, combining advanced manifold design with the advantage of a heat exchanger for every evaporator in the system.

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Write for Bulletin R3

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